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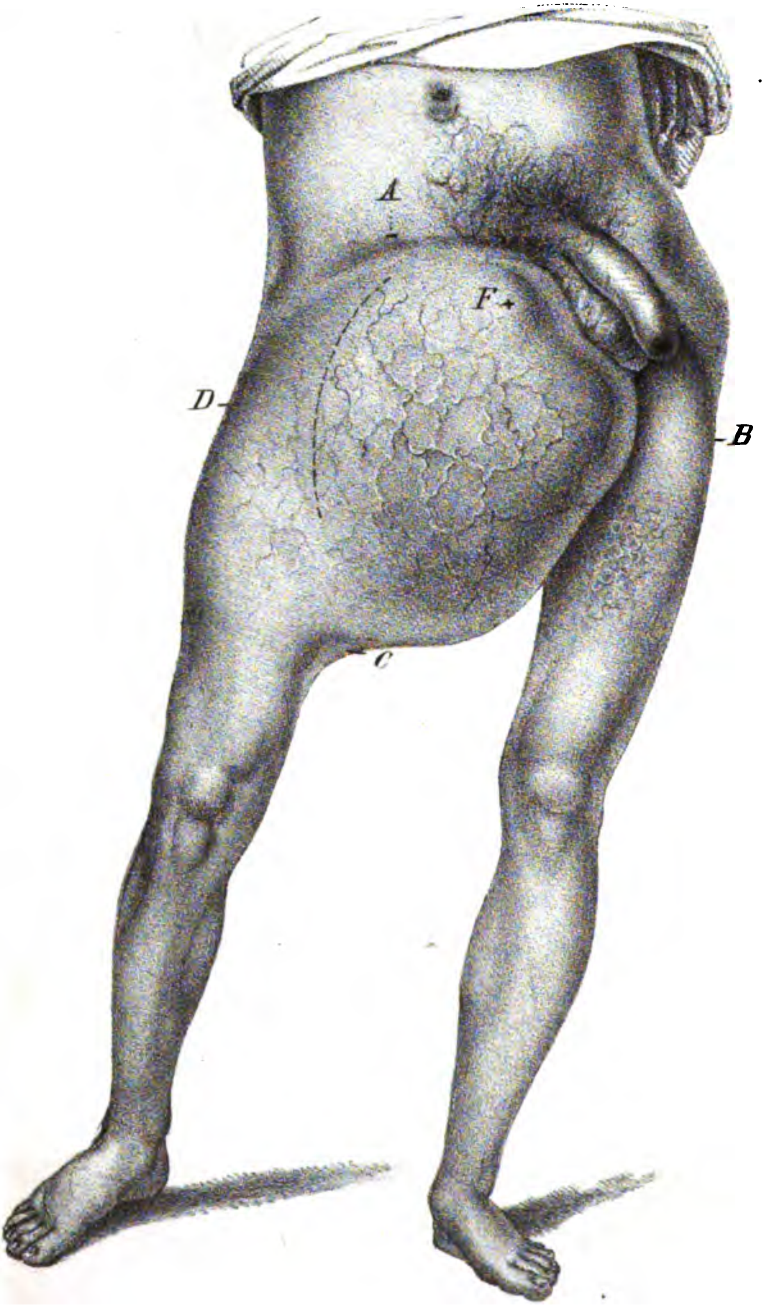

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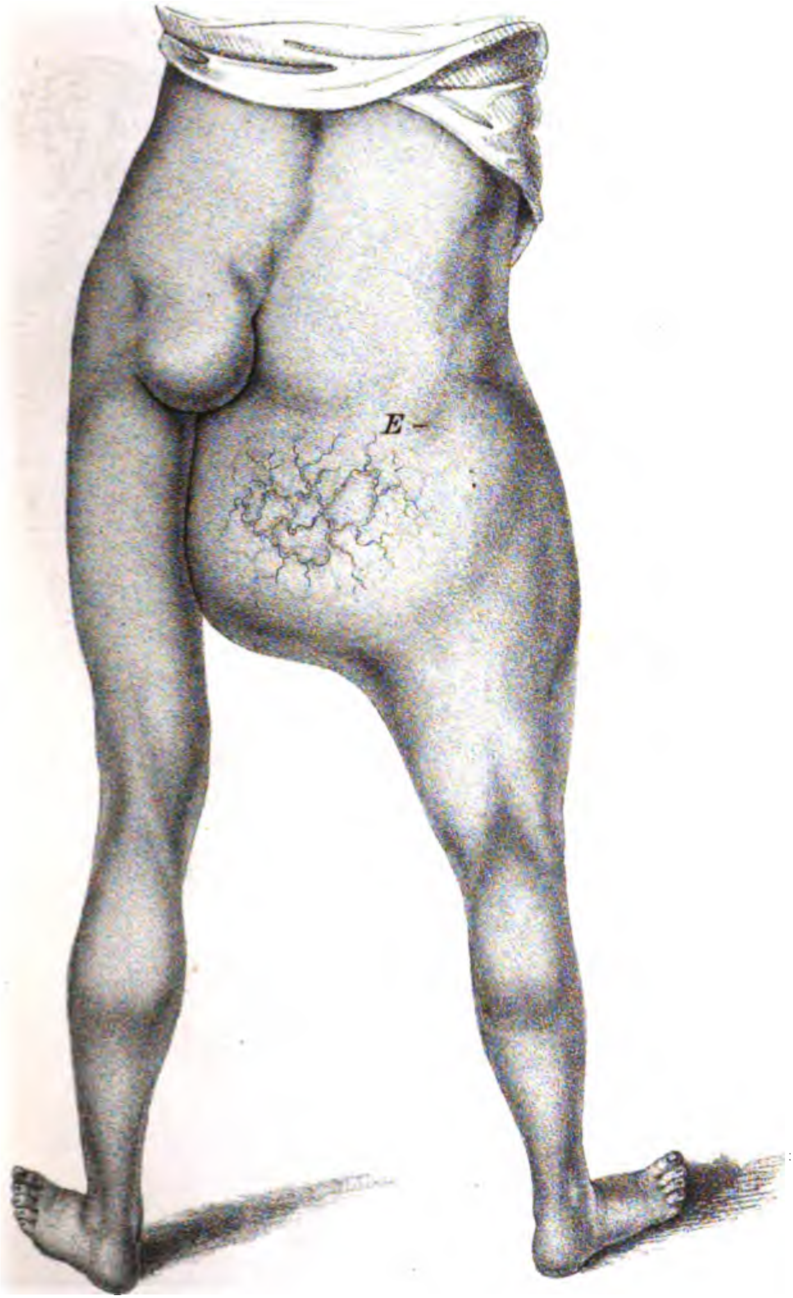

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AND

SURGERY.

VOL. I.

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ADDRESS TO THE MEDICAL PROFESSION.

In presenting a new Journal to the Medical Profession, the Publisher trusts that the undertaking will meet with their approval.

It is his intention to afford every facility for the publication and circulation of original matter, and of important Medical Intelligence, of which New-York possesses so large a share, as well as to introduce every thing of importance occurring in the Medical World abroad.

For this object he purposes to establish a regular correspondence with the principal seats of Medical Science in Europe, which shall place at his disposal all recent and interesting facts, as well as new and important works as they appear.

The Publisher takes the present opportunity to state, that the new Journal had its origin among the older members of the Medical Profession in New-York; that the plan proposed has been matured by much reflection, and will be pursued with energy and zeal. It was his intention to have published a list of Collaborators, but at the suggestion of the Editors, this plan has been changed; a list of this kind would, in fact, have embraced all the Medical talent of the city. The unanimity of feeling which pervades the profession on this subject, and the constant expression of the determination to support the enterprise, are a sufficient proof that a Journal devoted to the progress of Medical Science, has been much wanted in this city.

New-York. July 1, 1839.

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CONTENTS

OF THE

NEW-YORK JOURNAL OF MEDICINE AND SURGERY.

No. I.—July, 1839.

PAGE

Art. I. A summary View of the Progress of Medicine in America. By John Watson, M.D. 1

Art. II. Case of Bony Tumour, arising from the Pelvis. By J. Kearney Rodgers, M.D, Surgeon to the New-York Hospital, and to the New-York Eye Infirmary. 23

Art. III. Cases of Sensitive Tumours of the Female Urethra, with Remarks. By Alexander E. Hosack, M.D. 29

Art. IV. An Essay on Cancer of the Uterus. By John A. Swett, M.D. (Read before the New-York Medical and Surgical Society, Sept. 1, 1838.) 34

Art. V. Observations on Morbus Coxarius. By John G. Adams, M.D. (Read before the New-York Medical and Surgical Society, Jany. 27, 1838.) 57

Art. VI. A case of Abstraction of the Uterus, after Delivery. Reported by John H. Griscom, M.D. 74

Art. VII. Extirpation of a Part of a Rib for Neuralgia. By E. H. Dixon. 80

HOSPITAL REPORTS.

A Report of Cases of Remittent Fever, treated in the Medical Wards of the New-York Hospital, during the summer of 1836. (F. U. Johnston, M.D. Attending Physician.) By N. Shook, M.D; formerly Resident Physician. 83

A Report of Cases Illustrating the Treatment of Fractures, by the Immovable Apparatus. By John S. Heard, M.D., and James B. Gould, M.D; late House-Surgeons of the New-York Hospital. . . . 109

Researches on the Tubercular Disease of the Bones. By A. Nélaton, M.D. Translated from the French. By Charles R. King, M.D. . 116

BIBLIOGRAPHIC NOTICES.

PAGE
The Elements of Materia Medica. By Jonathan Pereira, F.R.S. & L.S. . . . 149
Flora Medica. By John Lindley, F.R.S. 151
Elements of Materia Medica and Therapeutics. By Anthony Todd Thompson, M.D. &c. 156
A Flora of North America. By John Torrey and Asa Gray. . . 157
Chemistry of Organic Bodies. By Thomas Thompson, M.D. . . 158
A Dictionary of Materia Medica and Practical Pharmacy. By W. T. Brande. 160
Essays on the most important Diseases of Women. By Robert Ferguson, M.D. 163
The Dublin Practice of Midwifery. By H. Maunsell, M.D. . . . 168
Lectures on the Principles and Practice of Midwifery. By James Blundell, M.D. 171
Traité Practique des Maladies Vénériennes. Par Ph. Ricord, M.D. . 172
The Principles of Diagnosis, &c. By Marshall Hall, M.D. . . . 187
The Surgeon's Vade-Mecum, &c. By Robert Druitt, M.R.C.S. . 188
Prostitution in London, &c. By Michael Ryan, M.D. 190
A Popular Treatise on Medical Philosophy, &c. By Caleb Ticknor, M.D. 191
Outlines of the Institutes of Medicine, &c. By Joseph A. Gallup, M.D. 193
Boylston Prize Dissertations. By Usher Parsons, M.D. 193
The Elements of the Practice of Medicine, &c. By Wm. Reid, M.D. 195
Valedictory Address to the Students in Medicine. By John B. Beck, M.D. 195
Lectures on the Theory and Practice of Medicine. By John Eliotson, M.D. 197
A Treatise on the Diseases produced by Masturbation, &c. By L. Deslandes, M.D. 198
An Introductory Lecture. By Jonathan Knight, M.D. 198
Annual Address, &c. By Thomas Miner, M.D. 199

SCIENTIFIC INTELLIGENCE.

Proceedings of the New-York Medical and Surgical Society . . . 201
Extracts from the Minutes of the Kappa Lambda Society 213
City Inspector's Report 226
Memoir of Dr. Physick. By J. Randolph. M.D. 236
Cases of Lithotrity. By Alban Gold-Smith, M.D. 238
Abstraction of the Uterus, Letter from Dr. Noyes 239
MISCELLANEOUS NOTICES. 241

THE
NEW-YORK QUARTERLY JOURNAL
OF
MEDICINE AND SURGERY.

FOR JULY, 1839.

Art. 1. *A Summary View of the Progress of Medicine in America.* By John Watson, M.D.

The occasion of presenting to the public a new medical periodical, may not, we trust, be deemed an improper one for offering some remarks on the progress of medical science in this country—for summing up the improvements that have already been effected here—and for fixing limits which may, perhaps, hereafter serve as landmarks between ourselves and our predecessors. There are many reasons which at the present moment invite us to this course. The youth who for the first time is called upon to separate from his friends and home, to depart to distant lands, or engage in scenes and occupations that are new to him; before taking to his journey, turns naturally to his old associates: though flushed with anticipation, he thinks upon the past, and feels, what he may never before have thought about, his weight of obligation to the guiding hands that have thus far led him onward. Such is our condition. Embarked in an enterprise for which we have made but little preparation, in which we acknowledge our deficiency, and to which we have been urged, not so much by our own inclination as by the solicitations of our friends, we feel, before entering upon other duties, the propriety, and even the necessity, of a glance, however short, at the labours of our predecessors.

Whoever has looked with sufficient care into the history of our institutions, is aware that America has never yet been foremost in promoting original research; and that whatever in the field of science has been effected here, is due almost exclusively to individual enterprise. Yet notwithstanding their disadvantages, many of our professional men have been honourably distinguished; and others, if they have not attained the foremost rank, have acquired no inconsiderable reputation.

For more than a century after the first settlement of this country, while the colonies were yet subject to Great Britain, the profession of medicine here, in common with most other liberal pursuits, was in the hands of Europeans. Even so recently as within a few years of the Revolution, the youth of America, in order to prepare themselves for the practice of medicine, were obliged to pursue their studies on the other side of the Atlantic. In the southern and middle provinces, medical investigations and medical education first began to claim attention. Many of the early European physicians who settled in these provinces, as well as others who had prepared themselves in Europe, were distinguished for their erudition, and for their extensive acquaintance with the diseases of this continent; and some of them have left important monographs behind them.

South Carolina was among the first in the field of improvement. "In that early period of American medical history," says Ramsay, "which was before Rush began his brilliant career as an author, there were more experiments made, more observations recorded, and more medical writings ushered into public view by the physicians of Charleston, than any other part of the American continent." He mentions with commendation the writings of Lining, Chalmers, Garden, Bull, and Moultrie. Dr. Bull was a pupil of the celebrated Boerhaave; he took his degree at Leyden, in 1734, and was the first American that ever received that honour. His thesis, "De Colica Pictonum," is quoted and honourably characterized by Van Swieten. Dr. John Moultrie was the first American graduate of Edinburgh, where in 1749 he defended a thesis "De Febre Flava." Dr. John Lining, besides other works, gave us the first accurate history of the yellow fever, in a work published in 1753: and Dr. Alexander Garden, about 1764, published the first account of the botanical history and medicinal virtues of the Spigelia Marilandica. Dr. Lionel Chalmers, besides an account of opisthotonos, and of the weather and diseases of South Carolina, published a valuable work on fevers, in 1767. In this he is said to have unfolded the outlines of the modern spasmodic theory of fever;—a doctrine first hinted at by Hoffman, and subsequently elucidated and supported by Cullen; and upon which the fame of that great man's name is principally established.

In Virginia, among the earliest contributors to medicine, were Mitchell, Clayton, Catesby the naturalist, Tennent, and Robertson. Dr. John Mitchell was the author of a work on yellow fever, written in 1744. Rush acknowledged that he had received many useful hints from it, in the management of this disease. It was first published many years after the author's death, in the American Medical and Philosophical Register of New-York.

Dr. Clayton was author of the Flora Virginica, printed at Leyden, in 1739, Dr. John Tennent brought to light the virtues of the Polygala senega, in 1736.

In New-England, the earliest physician of whom we have any record was one Dr. Samuel Fuller, who came to America in the first ship. Many of the physicians among the early puritan fathers, like the knight-templars of the middle ages, but with far different spirit, bore the combined honours, and performed the several duties of two professions. They were both clergymen and physicians. The puritan clergymen of England had long been taught at home to look to medicine as a means of subsistence in consequence of the persecutions they had suffered there, and before leaving England, many of them had already become eminent in the medical profession. Among the earliest of these clerical physicians, we find the Rev. Thomas Thatcher, who, in 1777, published a "Brief Guide to the smallpox and Measles." This was the first medical publication that ever appeared in America.

Among the earliest cultivators of medical knowledge in New-England, were Hunter, Walton, Douglass, and above all these, the celebrated Boylston. Dr. Wm. Hunter, a pupil of the elder Monro, lectured on anatomy, at Newport, in the years 1754, 5, and 6. His were the first lectures on subjects connected with the profession in America. Douglass was a Scotchman of some celebrity, and practised at Boston, where he distinguished himself by his violent opposition to the practice of inoculation. His most valuable work was his "Practical History of a New Eruptive Miliary Fever with Angina Ulcusculosa," published in 1735 or 6. This, says his biographer, may be considered a valuable practical essay on angina maligna, in which are detailed the character of the disease, and the method best adapted for treatment. He was one of the first amongst us to resort to the liberal use of calomel in the treatment of acute disease.

The name of Zabdiel Boylston brings us to one of the most important eras in the history of the science, the introduction of inoculation for the smallpox, which he first attempted at Boston in June, 1721. The earliest intimation of the Turkish practice of inoculating for this disease, appeared in the Philosophical Transactions, for 1714. (*) The communication was from an Italian physician residing at Constantinople. On the appearance of smallpox at Boston, in 1721, this work was pointed out to Dr. Boylston by the Rev. Dr. Cotton Mather. Boylston was forcibly impressed with the value of the suggestion, and resolved to put it to the test: but other physicians to whom Mather had also shown the communication, not only refused their co-operation, but condemned and opposed the proposal of Boylston in the severest terms. Notwithstanding the excitement which was raised against him, during which his house was attacked by an infuriated mob, his life and the lives of his wife and children threatened, and even openly attacked, Boylston remained unshaken in his purpose. On the 27th of June, 1721, while the smallpox was raging in the city, he inoculated his own son, a child of thirteen years, and afterwards two blacks in his family, and all of them with complete success. The smallpox prevailed until May of the following year, during which time he inoc-

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(a) It appears that long before the inoculation for smallpox, as practised in Europe and this country, the Chinese were in the habit of propagating the disease artificially. The plan they adopted was to apply the virus by means of a piece of cotton or other substance, to the nostrils. Dr. Cadwallader Colden, in some remarks, on the subject of inoculation, has given us reason to believe that inoculation for smallpox was practised by the savages of Africa, long before its introduction into Europe.

ulated with his own hand 247 persons; and after the excitement had in a measure subsided, 39 others were inoculated by other physicians, making in all 286 cases, of whom only six died, and even three of these fatal cases were supposed to have taken the disease in the natural way, prior to their inoculation. Thus the utility of the new practice was fairly established beyond dispute, and it soon became general both in America and in Europe. About the same period Lady Mary Wortley Montague, who had herself seen the benefits of the practice at Constantinople, introduced it into England, by having her own daughter inoculated there in April, 1721. This was the only case in which it had been employed in Western Europe prior to Boylston's experiment, and was unknown to him at the time; so that he has fairly the honour of establishing the practice by an extensive series of experiments in America, and of proving its merits before the profession in Great Britain could be said to have tested it at all.

Sir Hans Sloane, apprized of the eminent services of Boylston, and as is said, at the instance of the king, honoured him with an invitation to London. On his arrival at that city, besides numerous other marks of respect, he was elected a member of the Royal Society, and at the request of that honourable body, before quitting England, he published, in 1726, an account of his practice, which was published at Boston the year following.

Before closing the early history of the profession in New-England, it is but fair to notice the once popular, but now almost forgotten *tractors* of Dr. Perkins. The science of *Perkinism*, as the imagined influence of the metallic tractors was gravely called, was of later date than the period within which we are now limited, namely that which preceded the Revolution: but it belongs to New-England, and more especially to Connecticut, where in 1798, it was first promulgated. It is needless to enter into the minute details of the tractors, and of their wonderful cures in all parts of the old and new world. Suffice it to say, that this fantasy of Perkinism furnishes one of the severest comments ever recorded against the fallacy of human logic and the obliquities of scientific observation, even when exercised by men considering themselves competent and impartial judges, and who under other circumstances might have deserved and claimed the confidence and respect of the profession.

In Pennsylvania, prior to the Revolution, the principal contributors to medicine were Kearsley, Cadwallader, Bond, Thompson, Bertram the naturalist, and others to be mentioned among the founders of the first school of medicine in Philadelphia.

Dr. John Kearsley published in the Gentlemen's Magazine for 1769, a paper on the angina maligna of 1746 and 1760. Dr. Cadwallader, an essay on the iliac passion. Dr. Thomas Bond wrote an essay on the use of Peruvian bark in the treatment of scrofula, which was addressed to Dr. Fothergill, (who has himself written on the same subject,) and published in the London Medical Observations and Inquiries. He was a practical surgeon, and distinguished as a successful lithotomist. In the latter part of his life, after the establishment of the school of medicine, he aided the undertaking by his clinical instructions at the Pennsylvania hospital.

Dr. Adam Thomson was the author of a discourse on the most proper treatment preparatory to inoculation for the small-pox. He states, that inoculation had been so unsuccessful in Philadelphia that many were disposed to abandon it. Whereas by preparing his patients by means of antimonial and mercurial medicine before inoculating them, he had for twelve years met with uninterrupted success.

In New-York, among the earliest contributors to medical knowledge, were Colden, Middleton, Jones, Samuel Bard, and Bayley.

Cadwallader Colden, formerly lieutenant-governor of this state, was a man of the most profound and varied acquirements. His fame rests more upon his writings in natural history and philosophy, than on any of his strictly professional productions; the principal of which were the history of the prevalent diseases of this climate, and his account of the fever of 1741 and 2, of which he pointed out the causes, for which also he showed the means of prevention so clearly, that the corporation of the city returned him their vote of thanks. Dr. Jacob Ogden is principally known by his letters on the malignant sore throat distemper, dated 1769 and 1774. He was among the first, if not the very first, to introduce the liberal use of calomel in the treatment of acute inflammatory diseases.

Dr. P. Middleton was the author of a letter on croup, addressed to Richard Bayley. He and Dr. John Bard, in 1750, conducted the first dissection that ever was performed in America. Their subject was a convict. They injected the vessels for the instruction of their pupils. Middleton was also one of the most active in founding our first school of medicine; and in advocating the establishment of the New-York Hospital.

Dr. John Jones was an accomplished surgeon of great experience. He was the author of "Plain Remarks upon Wounds and Fractures," published in 1775, for the benefit of young men about to enter the American service. This work was imperiously called for at the time, it was constantly referred to during and after the war, it underwent several editions, and was of invaluable service in preparing for active duty a number of badly educated men, who had had few or no previous opportunities, and who had access to no other work than this for guiding them in the exercise of their profession. Jones was also professor of surgery in our first college.

The principal literary production of Samuel Bard, previous to the Revolution, was an essay on angina suffocativa; the views advocated in which he afterwards honourably relinquished in favour of those of his friend Bayley. Long after the time now referred to, he published a useful compend of midwifery. He ranked for many years at the head of the profession in this city. Bard, in general practice, was disposed to trust much to nature, to abstinence, and good nursing; and was no friend to systematizing. "New names," says he, "are always deceiving; new theories are mostly false or useless; and new remedies, for a time, are dangerous. This rage for novelty pervades our profession, especially in this country. Hence our extended catalogue of new fevers, and hasty adoption of new remedies; hence the unlimited and unwarranted application of mercury without weight, brandy without measure, and the lancet without discrimination; and hence, I am afraid I may say, the sacrifice of many lives which might have been preserved, had they been left to water gruel and good nursing." In his public address at the college commencement, May, 1769, he advocated the necessity of a public infirmary in this city; and to his exertions, aided by those of Middleton, Jones, Colden, and the Earl of Dunmore, then governor of the province, we owe the establishment of the New-York Hospital.

Richard Bayley, the last to be enumerated, but not the least worthy among the cultivators of medicine in this province, was the author of a letter on croup, addressed to his instructor, Dr. Wm. Hunter of London. It was not in fact published until 1781; but the views contained in it had already been made known to many, and they were first published by his friend, the celebrated Michælis, in Richter's Surgical Repository. He was the first to establish the inflammatory nature of this disease, and to distinguish it, by a comparison of pathological appearances, from angina maligna; with which, up to his time, it had been commonly confounded. His views were of the utmost value, and led to a happy and complete revolution in the treatment of this disorder.

The only schools established for medical instruction in this country before the Revolution, were those of Philadelphia and New-York.

As early as 1762, Dr. Wm. Shippen of Philadelphia, after having completed his education in Europe, commenced a private course of lectures on anatomy and midwifery, to a class of ten pupils, one of whom was the celebrated Rush. In 1765, Dr. Morgan commenced a similar course on the theory of medicine, including materia medica and pharmacy. This last gentleman soon afterwards addressed a letter to the trustees of the Philadelphia college, recommending the establishment of a medical school under their auspices: whereupon he was appointed professor of the institutes of medicine, and Dr. Shippen of anatomy and surgery. In 1768, Dr. Adam Kuhn, a pupil of Linnæus, returning home, was chosen professor of materia medica; and in the following year, Dr. Benjamin Rush, having completed his studies in Europe, was called to the chair of chemistry. Thus in 1769, the first faculty of the Philadelphia medical school was organized, the venerable Dr. Thomas Bond officiating as clinical instructer in the hospital of that city. In the establishment of that school, no man deserves greater credit than Dr. Morgan; and, says his biographer, "the historian who shall hereafter relate the progress of medical science in America, will be deficient in candour and justice, if he does not connect the name of Morgan with that auspicious era in which medicine was first taught and studied as a science in America."

The establishment of the first medical school in New-York, was principally effected by the exertions of Drs. Peter Middleton and Samuel Bard. While pursuing his studies in Europe, Dr. Bard had formed the plan of a medical school in his native place; and on returning home, had the credit of finding himself associated in the project with a number of distinguished practitioners. Dr. Middleton addressed a letter on the subject to the trustees of Kings, now Columbia college, and in 1768, the medical school of New-York was organized, with the following faculty:—Dr. Peter Middleton, professor of physiology and pathology; Dr. Samuel Clossy, professor of anatomy; Dr. Samuel Bard, professor of theory and practice of medicine; Dr. John Jones, professor of surgery; Dr. James Smith, professor of chemistry and materia medica; Dr. John B. V. Tennent, professor of midwifery.

These two institutions gave promise of great benefit to the community; but the Revolution commencing soon after their establishment, many of their professors were called to more urgent duties; and the agitated state of public affairs for several years afterwards, in a great measure deprived the public of the benefits they might otherwise have experienced from them.

Such, then, is a brief account of the progress of medicine in America up to the time at which the colonies declared themselves independent of the mother country. From this period until after the war, little else was effected than the introduction into use of a few of our indigenous plants; as the Lyriodendron tulipifera, the Cornus Florida and Quercus alba, which in combination were used successfully as a substitute for the Peruvian bark, at that time scarcely to be procured.

To recapitulate the labours of our physicians in the cultivation of their profession up to 1776, they were as follows:

1st. In furnishing statistical accounts of the climate and diseases prevalent in different sections of the country:

2d. In furnishing accounts of most of our vegetable productions, and in introducing some of the most useful of them into the materia medica:

3d. In recording the history of the principal epidemics, and some of the endemic diseases: as the influenza, which had prevailed extensively at different periods from the earliest settlement of the country; the smallpox, measles, and the angina maligna of later date; the colica pictonum, which appears to have been very frequent in the southern provinces; the yellow fever; the fevers of the middle and southern states; and, finally, the croup:

4th. In the introduction of new practice: namely, inoculation for the smallpox; the liberal use of calomel in inflammatory diseases; the depleting and the depressing practice in the treatment of angina trachealis:

5th. In the publication of a useful surgical guide for the instruction of our army and navy surgeons:

6th. In the establishment of hospitals and medical colleges for the benefit of the sick poor, and the competent instruction of youth about to enter upon the duties of the profession.

Soon after the return of peace, those who had been most active in the cultivation of the profession before the war, began again to direct their attention to the same object. The colleges of Philadelphia and New-York were in due time re-organized, and new schools were opened in other places. State and county medical societies were established; medical literature again revived; medical and philosophical transactions were encouraged; and, finally, medical periodicals appeared. So that at the commencement of the present century, the country in proportion to its population, contained almost as great a number of scientific and well educated practitioners, as at any period since. Four well regulated medical colleges were in operation: the pupils of these had already added to our stock of knowledge by their original dissertations on our climate, our prevalent diseases, and the virtues of many of our indigenous plants; our state and county societies were holding out inducements, by rewards and other means, for urging our practitioners to useful and original research; Rush, and Miller, and Benjamin S. Barton, and Mitchell, and Elihu H. Smith, had commenced their career of authorship; the interest felt by the community in their labours had induced others out of the profession to assist in their researches; Webster's well known work on pestilential diseases had appeared; and the Medical Repository had been three years before the public.

These, then, were the starting points for all that the profession in America has since accomplished.

Their efforts at improvement have been both numerous and important; and the high esteem in which these have been held in all quarters of the globe, should be deemed an inducement sufficient for urging us to new exertions.

It is not our intention, on the present occasion, to enter minutely into the history of our individual institutions. Our *medical colleges*, which at the commencement of the present century were limited to four, have since increased to nearly thirty: an increase altogether uncalled for, and the effect of which has been rather injurious than beneficial. The free trade and no monopoly principles of Adam Smith, how beneficial soever in commerce, in those branches of industry to which he himself would have applied them, or in those occupations in which men may look directly to a full return of remuneration for his enterprise or labour, have a chilling and unkindly influence upon science: they should never have been extended to our halls of learning; and least of all, to a class of institutions, which in this, as in all other countries, require protection and encouragement rather than opposition.

The facility with which charters can be obtained for medical schools in this country, and especially in this state, has had no good influence upon the profession. And the establishment of these in unknown villages, and in remote settlements scarcely yet reclaimed from the wilderness, where no infirmaries exist, and where students have no opportunities for practical instruction, serves but to diminish the usefulness of older and better institutions.

The efforts made by these woodland schools have another evil tendency. The inducements held out by them for individual patronage, are, diminution in the expenses and in the period of study. Their requirements for graduation are consequently not sufficiently elevated; and in this way numbers of badly educated men are thrown upon the public. In our larger cities, however, where men of experience and varied professional acquirements can be obtained as professors; and where hospitals, infirmaries, and dispensaries, are at hand for clinical instruction, our colleges have always merited the respect and confidence of the profession.

In periodical literature, the practitioners of this country are behind those of no other nation. In New-York was published and supported for some twenty-three years, one of the earliest and ablest medical and philosophical journals that ever appeared in any country.

In the autumn of 1796, Dr. Elihu H. Smith, a man of much refinement and rare acquirements in the profession, conceived the project of a medical periodical. He communicated his plan to his friend Dr. Edward Miller, and they together laid the design before Dr. Samuel L. Mitchell, who had just returned from Europe. They all three united in the enterprise, and pursued it with so much vigour, that in August, 1797, the first number of the New-York Medical Repository made its appearance. This work, the first of its kind, was warmly received and ably supported. In its pages are to be found valuable records of our epidemics, and the other diseases of this country. Beginning with the yellow fever of 1793, it contains the complete history of that disease up almost to its last appearance here. It contains the most ample records of the spotted fever, a very fatal disorder that prevailed in the northern and eastern parts of the United States, from about 1807 until after the late war. It contains valuable memoirs on the typhoid pneumonia that committed such havoc among our soldiers, and spread to different parts of the country during the years 1813 and '14, and for a short time afterwards. It is rich in medical topography, and in the chemistry of the day, on which latter subject the celebrated Priestley was one of its diligent contributors.

From this as a parent stock, says the Rev. Dr. Miller, have sprung a number of similar works in Europe and America. "The Medical and Philosophical Journal of London was commenced soon after the appearance of the Medical Repository, with the avowal of its editor that he took the hint from New-York. Other editors in London, Paris, Edinburgh, and Bremen, in a short time started similar journals," and in this country they have multiplied even more rapidly than our medical colleges, and with much the same effect. At present they are not so numerous as formerly, but the interests of the profession have not suffered on this score. With the addition of a well conducted medical quarterly in this city, we would have as many as are needed. And, no doubt, now that New-York is awakening to a sense of shame for having allowed her own former and well conducted journals to be discontinued, and for supporting, to the detriment of her own citizens, a foreign review, (able enough in itself, but of no great use to the practitioners of America,) she will soon blush at the lethargy for which of late years she has been characterized on this point; and once more bestir herself to regain her former stand.

The medical literature of America, within the last forty years, has been enriched by a number of well digested compends on anatomy, chemistry, botany, materia medica, pharmacy, therapeutics, physiology, hygiene, pathology, midwifery, practical medicine, and surgery; by original works on several of these subjects: by some few works of higher rank, embracing original researches, especially in medical jurisprudence, in the theory of disease, and the philosophy of epidemics: not to mention an immense number of valuable monographs and detached essays, in almost every branch of the profession. To enter into an account even of the most valuable of these, would occupy more space than we can properly devote to them at present; suffice it therefore to say, that though our offices and libraries are crowded with foreign text books to the exclusion of our own works, (a state of things owing for the most part to the rivalries between our different schools) yet the writings of American authors, especially on all practical subjects, are sufficient of themselves to place our practitioners on a rank, equal to that of the practical men of the profession of any other nation; and furthermore, that in this country they are our best and safest guides. Many of our authors too, under estimated at home, are held in high and deserved repute in Europe. In support of this we may state that Wistar's Anatomy was at one time the text book in the University of Edinburgh; and that for some years back, and even at the present time, Beck's Medical Jurisprudence is the most popular work on the subject in Great Britain and Ireland. The writings of Godman and Anderson are occasionally quoted by the French; and those of Dr. Edward Miller, the former president of our college, gave the first suggestions towards what, by Broussais, has since been called the physiological doctrine of disease.

We have mentioned Edward Miller; and, could time permit, would fondly dwell on the merits of a physician, concerning whom, those amongst us who have been some five-and-twenty years in the profession, may have a distant recollection. To many of the rest of us, the name is, doubtless, new. Rush has declared of him, "that he was inferior to none;" and those of us who have compared the writings of these two great masters of the profession, have sufficient reason to know, that this acknowledgement of Rush was as true as it was honourable.

Miller was a close and constant observer; and so ably has he investigated the pathology of fevers, that Broussais has since awarded him the honour of having been the first to arrive at a knowledge of their true nature. "He was the first," says Broussais, "to consider the stomach in its true physiological relations. Under his pen, the phenomena of fever and the modus operandi of medicines, have acquired an interest which they had never had in our systematic works, even the most celebrated. How is it, therefore, possible," exclaims Broussais, "that having so happily commenced, he should have rested here, without discovering the whole of the physiological doctrine which we now-a-days profess!" But the pupils of this celebrated theorist, who have already forsaken him, can best give the true response to this apostrophy. Miller was too much the admirer of truth, and too close an observer of nature, to be carried away by any theory, even by his own, to the extravagant extent of Broussais. "Whatever advantages," says he, in the prospectus to the Medical Repository, "whatever advantages may have been temporarily derived from certain elaborate theories, it is chiefly by the new spring which they have given to the mind, and by the more accurate investigation of natural phenomena, to which they have excited others, that they have been permanently useful. Our knowledge of nature is too limited, our collection of materials too scanty, to enable even the most diligent and industrious to frame a correct theory."

In the exposition of his views of fever, Miller gave but a digest of his own observations, and, as before remarked, we can clearly discover in them the dawnings of Broussais's doctrine: and notwithstanding the pains taken by this distinguished master to shield the originality of his own system, I am well convinced, even by his own acknowledgements, and without charging him with plagiarism, that he might have found in the writings of American authors, (I mean more especially in the collected labours of Rush and Miller,) the elements of every thing that is useful, and of almost every thing that is true in his own doctrine.

He has acknowledged that Rush should be classed amongst those who have contributed to the overthrow of the Brunonian system; and to the introduction of what all the efforts of Sydenham had failed to introduce: the antiphlogistic treatment. The philosophic spirit of Rush, he admits, is also manifest in the entire proscription of the nosologists. "But," says he, "notwithstanding the services thus rendered by him, 1st, in pleading for the antiphlogistic practice; 2d, in proscribing the systems of nosology; 3d, in labouring to overthrow the doctrine of specific diseases; Rush has not given much importance to the irritability of the stomach and bowels in the production of diseases, although he has ably contributed to the treatment of such of them as are acute."

Now we have already seen from Broussais's own acknowledgement, that Miller had actually accomplished what Rush had left undone. With facts like these before us, to whom belongs the glory, if any be attached to it, of first suggesting the principles upon which has since been founded the whole system of physiological medicine?

Benjamin Rush, to whose doctrine we have just alluded, was the promulgator of what has scarcely with propriety been called "the American System of Medicine," a system that was never taught, so far as we know, in any other than the University of Pennsylvania. At the time of commencing his career as a teacher, the doctrines of Cullen were in the height of their popularity; for although Brown had already reared his well known system against them, his influence had not yet been sufficient to subvert them or drive them from the schools. Rush, however, in his opposition, both to them and to those of Brown, met with more success.

The burthen of Rush's doctrine was to establish the unity of disease. "I use the term diseases," says he, "in conformity to custom: for, properly speaking, disease is as much a unit as fever. It consists simply in morbid action or excitement in some part of the body. Its different seats and degrees should no more be multiplied into different diseases, than the numerous and different effects of heat and light upon our globe should be multiplied into a plurality of suns." In defence of this doctrine he made bold attacks upon those of his predecessors, especially the nosologists. "By the rejection of the artificial arrangement of diseases," says he, "a revolution must follow in medicine. Observation and judgement will take the place of reading and memory, and prescriptions will be conformed to existing circumstances. The road to knowledge in medicine, by this means, will likewise be shortened: so that a young man will be able to qualify himself to practise physic, at a much less expense of time and labour than formerly; as a child would learn to read and write by the help of the Roman alphabet, instead of the Chinese characters."

With promises such as these in favour of our natural indolence, no wonder the doctrines of Rush spread throughout the nation like meteor lights; but like these also to be almost as evanescent. A revolution indeed has followed in the profession; but in the overthrow of older doctrines, it has involved his own; observation and judgement are indeed more relied upon than formerly, but reading and memory are as necessary as ever; prescriptions, too, are made conformable to circumstances; but they consist not merely in unlimited depletion. The road to knowledge!—has it been shortened?—or is the road, by observation and judgement in connexion with that of reading and memory, shorter than that by reading and memory only? Rush himself lived long enough to see the fallacy of this. False, however, as were his views at the commencement, supported by his eloquence, his urbanity, his honesty, and profound acquirements, thousands of pupils were attracted to listen to him. He gave an impetus of popularity to the school of Philadelphia, which has continued to support it to the present day.

Rush's theory of fever has long since been exploded: we shall not, therefore, enter into the details of it. In his own practice, more especially in his riper years, theory was subservient to judgement. He has left us descriptions of epidemics, and of many individual diseases, in which, for fidelity to nature, and just therapeutical indications, he cannot be too closely imitated. By his immense amount of useful observations he has been a benefactor to the profession. But in the hands of his early followers, the simplicity of his theory too often has been everything, and the practice that resulted from it has led to many a fatal issue.

In the philosophy of epidemic and endemic diseases, the literature of America is peculiarly worthy of notice. In no country has the subject been so thoroughly investigated as here; and in no other place so thoroughly as in our own city. The writings of Bayley, Rush, Miller, Elihu H. Smith, Seaman, Pascalis and others, furnish a rich fund of original information on this subject; and constitute what Miller has emphatically characterized as "the American doctrine concerning the origin and propagation of endemic and pestilential diseases."*

Richard Bayley, of whom we have before spoken, in 1795 published a work on the yellow fever of that year, in which he proposed a distinction between contagious and infectious disorders. "This distinction," says the late Dr. Hosack, (himself in some degree opposed to Bayley's views,) "is in my opinion an approach nearer to the truth than any of his predecessors have advanced, but it does not present us with a view of the whole truth upon the subject." † Dr. Miller, following up this distinction, has carried the investigation farther, and pointed out divisions among the infectious classes. The views of Dr. Hosack were not in accordance with either of these writers, nor with those of the great body of the profession here. They are, however, worthy of consideration; but as we cannot enter at present upon this once fruitful source of disputation, we must refer to his own exposition of them, in the 2d vol. of the American Medical and Philosophical Register. The subject was finally taken up by one who has proved himself competent to unravel it; and to the classical production of Dr. Joseph M. Smith, we must refer for the most beautiful, if not also the most thorough exposition of the laws regulating the rise and prevalence of epidemic diseases, that has ever yet appeared.

In the pathology and treatment of several diseases, the physicians of this country have introduced important improvements.

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* Preface of the 9th vol. of the Med. Repos.

† Amer. Med. and Philosoph. Register, vol. ii. p. 15.

We need not again refer to those already mentioned. The management of our pestilential diseases; the pathology and treatment of dropsies, especially dropsy of the head, first instituted by Rush, and since adopted in Europe; the treatment of cholera infantum, as suggested by Miller; of dysmenarrhœa, as suggested by Dewees; of delirium tremens, as suggested by Knapp; of hysteria, as suggested by Dr. J. M. Smith; and of lunacy, as practised in our asylums: are all important landmarks in the history of American medicine.

But to surgery, more than any other practical branch, are we to look for our trophies in the profession. The reckless and unnecessary resort to operations, by men whose principal qualification is a daring disregard to human suffering, we are as much disposed to deprecate as any one; and hail that auspicious era, in which praise can be more willingly awarded to him that saves his patient from the knife, than to him that operates. Yet when other measures fail, and the bistoury or scalpel is the last, or least deplorable alternative, the surgeon, who by his knowledge of the human structure, and the principles of his art, has the head to devise and the hand to perform original and successful operation, should be deemed an honour to his profession, and a benefactor to his species. Among the men of this class, America has many to be proud of.

To enumerate the original and important operations; the introduction of new ones from precedents elsewhere; to cite the improved modes of practice, by which severe operations have been avoided; the advances in surgical pathology; the additions to our armamenta chirurgica, and the improvement in instruments already long in use; must be to prove that in no place has surgery been more successfully cultivated than in this country. The names of Bayley, Jones, Physick, Post, McKnight, Dorsey, Nathan Smith, and Hosack, among the dead; of Mott, Stevens, McClellan, J. Rhea Barton, Rodgers, Warren, Dudley, White, Gibson, Muzzy, and a host of others among the living, are worthy of the highest rank among the surgeons of their day, for their share in these improvements.

In the excision of bones, Dr. Mott's removal of the clavicle, in 1828, his operation for extirpating a greater part of the lower jaw, in 1821; Dr. Stevens's operation on the upper jaw, in 1823,[*] his extirpation of the astragalus, in 1826; Muzzy's removal of the scapula and clavicle together, in 1837; and Dr. R. Butts's removal of the ulna, published in 1825; are, so far as we know, all original and successful innovations. Besides which, Drs. Brown and Hunt's operation for dissecting out the head of the humerus and fractured portions of the scapula, on a soldier injured at the battle of Plattsburgh, in 1814, with the effect of saving both the limb and the use of the joint, is worthy of special observation.

In operations for diseased joints, Dr. John Rhea Barton has rendered himself conspicuous. His operation for artificial hip joint, in 1826, and that for straightening an anchylased and contracted knee, in 1835, were peculiarly original and successful. In the first of these he has been followed by Dr. John Kearny Rodgers, of this city, also with success:— and these two are the only operations of the kind that have ever been performed.

In the treatment of diseased bursœ and of hydrops articuli, as practised by the late Dr. Hubbard of Yale College, the surgery of the joints has been improved. In the treatment of morbus coxarius, Dr. Physick's apparatus is worthy of praise. It has been applied successfully by other surgeons, especially by Dr. A. H. Stevens, in treating the diseases of other joints. Dr. Physick's operation for ununited fracture, too, is known, appreciated, and successfully employed both at home and abroad.

The mode of arresting capillary hemorrhage by exposing wounds for a time to the air, so as to expedite the adhesive process after capital operations, first adopted by Dr. David Hosack, in 1813, (who, at that period, devoted much attention to surgery,) is worthy of special notice here; inasmuch as it has since been recommended by the surgeons of Edinburgh, who, doubtless unaware of Dr. Hosack's claims, have taken to themselves much credit for the practice.*

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[*] In the 20th vol. of the Medico-Chirurg. Transactions, the credit of first having removed the upper jaw, is attributed by Mr. Liston to Mr. Lizars of Edinburgh. The operation of Dr. Stevens, and subsequently that of Dr. David L. Rogers, then of this city, were both antecedent to that of the Scotch surgeon, and were completely successful. An account of Dr. Stevens's operation, which was performed on the 13th of August, 1823, may be found in the appendix to Sterling's Translation of Velpeau's Surgical Anatomy, N. Y. 1830. Dr. David L. Rogers's operation was performed in May, 1824, and was published in the 3d vol. of the N. Y. Med. and Phys. Journal. Mr. Liston, in his historical notice of operations on the upper jaw, makes no mention of either of these.

In the operation for artificial anus, Dr. Physick, in 1809, successfully instituted a practice which has been imitated in other countries, and is claimed by the French as one of the inventions of Baron Dupuytren.

In the operation on spina bifida, by excision, Dr. Sherwood, of Rutland, in 1811, was completely successful; and about a year since, Dr. A. H. Stevens succeeded in curing an aggravated case by a modification of Sir A. Cooper's practice by puncture.

In amputation of the joints, our surgeons, it is true, have no right to claim the precedence; nevertheless, we may refer to Dr. Bayley's amputation at the shoulder joint, in 1782, as among the first successful operations of the kind; Dr. Mott's amputation at the hip joint, in 1824; and Dr. J. Kearny Rodgers's amputation at the elbow joint, in 1825, all successful.

Besides these might also be mentioned extirpation of the parotid gland; orthoplastic operations of various kinds; extirpation of the uterus, and of ovarian tumours; lithotrity, lithotripsy, improved modes of lithotomy, and the removal of calculi from the bladder without cutting; the treatment of aneurism by cold; and the diseases of the anus by dilatation; the Cæsarian section for the removal of the extra-uterine fœtus, and an analogous operation for the removal of metallic bodies lodged in the small intestines; all performed with success, and all illustrative of the rank of this art amongst us.

In operations upon the arteries, the principles laid down by Hunter, and the application of them by himself, Abernethy, and Cooper, have been successfully carried out here; and have led to a number of bold and important precedents, determining what should be, as well as what should not be again attempted in this department of surgery. In these achievements, the name of Post, Mott, Muzzy, Gibson, White, and others, are peculiarly worthy of distinction.

Such, then, is an outline, and but a brief and imperfect one, of some of the most important and memorable points in the history of medicine in America. Before drawing to a close, let us dwell for a moment on the state of the profession in this city.

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* See the Amer. Medical and Philosophical Register, vol. 4, p. 63.

The time was once, and that not half a century ago, when almost all that was known of American medical literature, and almost every thing that characterized it in Europe, resulted from the enterprise and talent of New-York. The face of the profession generally, as well as of the different branches, has materially altered since that period: but though we occupy a more favourable position, and enjoy more extensive views than our professional forefathers, we are nevertheless bound to look with admiration on their labours, and to acknowledge with gratitude the share they have had in our advancement. But these fathers! where are they? Our Bayley, and Bard, and Jones, and Miller, and Middleton; our Elihu H. Smith, our McKnight, Romayne, and Mitchell,—names once familiar as household things,—are now scarcely ever heard of; for the fire of their enthusiasm is extinguished, and the gratitude and fame that should have been awarded them, are smouldering in its ashes.

We would not be understood to say, that since the days of these once distinguished men, the spirit of inquiry, has departed from us: far otherwise. Yet with humiliation be it acknowledged, that ever since their day, the bonds of fellowship which should have held us in unity to the support of one another, and to noble emulation in the promotion of a common interest, have been continually slackening. The spirit of discord has been awake, and the poison of its breath has hung upon us, until it has withered our institutions almost to extermination. Talent and ability have been exerted single-handed; and often, too, opposed by those who should have fostered them. There has been no commanding, and, at the same time, conciliating voice amongst us, to emulate our youth, to urge on our middle-aged to labour, to call upon our advanced in life for the result of their experience, to unite the whole in unison, and to direct the current of popular feeling, as well as of popular interest, towards the advancement of the profession.

Yet our city has advantages for the cultivation of medical science that are not to be surpassed; and though some of these of late years have been unaccountably overlooked, and though for want of well-directed efforts on our own part, other places have been allowed to take the lead of us in the work of medical instruction; yet no one can deny that while distant schools have drawn together their hundreds of pupils annually, their teachers have had an eye for precedent and practical instruction, to the profession in New-York. We need not again enumerate the splendid achievements in surgery that have been effected here, the improvements in the practice of medicine, the original researches in anatomy, the investigations into the laws of epidemics, or the additions to our materia medica, to bear us out in this remark. Let it then be no longer said, that New-York must forever hold an humble rank as a school for medical instruction: for so long as we have our hospitals and infirmaries to resort to, so long as the name of Romayne, of Post, of Godman, of Hosack, and of Mott, shall be remembered and respected, we have the earnest of better things. Nor are these the only names we should be proud of; we have still,—and long may they continue in their usefulness, to enjoy the blessings of life, and to receive the honours and esteem so justly due to them,—we have still amongst us men whom the medical profession in any country might be proud to claim.

Where, then, lies the bar to the cultivation of medical science, and to the growth of medical institutions in this city? We have the material, and the ability, and the will: let us, therefore, hope for emulation and concert of action, sufficient for investigating the one, and for supporting the other. And when jealousies, and prejudice, and party feeling, shall have been, as we trust they sometime hereafter shall be, if not eradicated, at least restricted in their influence, New-York may again regain that stand which her advantages have ever claimed for her; and from which, had she always been alive to her own true interests, she would never have departed.

Art. II. *Case of Bony Tumour arising from the Pelvis.* By J. Kearny Rodgers, M.D., Surgeon to the New-York Hospital, and to the New-York Eye Infirmary.

Mr. Henry Hart, aged 29 years, of rather slender formation of body, and of an exceedingly nervous temperament, became my patient in September, 1838. He had a bony tumour connected with the pelvis, and involving the right thigh, of which the accompanying sketch, with the measurements, will probably give a better idea than any merely verbal description. It extends upwards from the pubis, about two inches above the body of that bone, and downwards, two-thirds the length of the thigh. Its outer margin pushes the sartorius muscle and femoral vessels outwards, nearly two inches from their natural course. Its inner margin, although the knees are not nearer together than nine inches, overlaps more than half of the sound thigh. The penis and testis are pushed considerably to the left, and rest on the upper part and left of the tumour. In its posterior aspect, it extends several inches below the margin of the gluteus maximus.

The dimensions of the tumour were taken in the beginning of October, and are as follows:

From the upper margin, at A, to its lower extremity, at C, 11¼ inches, in a right line.

Circumference of the affected thigh, with the tumour at D, 34½ inches.

Circumference of the sound thigh, at B, 17½ inches.

Circumference of the tumour, at its base, or as closely as a cord could be passed, at C & F, 34½ inches.

From the base of the tumour, at A, over its surface, to a corresponding point behind, at E., (plate 2nd,) 25 inches.

The fingers can be passed behind the upper end of the tumour to the transverse portion of the pubes, and their ends insinuated between it and the latter bone.

Its outer margin can be distinctly traced on the anterior and posterior aspects of the thigh.

The integuments covering it are healthy, and are traversed by very large veins, forming deep grooves on its middle and lower part, as represented in the plate. The tumour presents no irregularities of surface.

Three-fourths of the tumour, that is to say, the upper and anterior portion, are hard and incompressible, so as to leave no doubt of its being bony in its character. The lower and posterior parts are softer, and yield to pressure. Its attachment appears to be the body, and, perhaps, the ramus of the pubes. It is immovable by any force that has been applied, and so anxious was the patient to test the strength of its connection with the body, that his brother, at his earnest request, endeavoured to raise him by it, with the faint hope, on his part, that its neck might be broken, and then its removal more easily accomplished.

The right thigh is pushed outward by the tumour, and walking is performed with a straddling gait. The flexing of the thigh is materially interfered with. He sits partly on the tumour. Pain is experienced after walking, and also after lying several hours in bed. This latter pain is relieved by rising and walking a few times across the floor.

There is no difficulty in passing his fœces, nor are they flattened. On examination per anum, I cannot perceive any encroachment of the tumour on the cavity of the pelvis. He thinks that at times micturition is performed slowly; which probably arises from the urethra being stretched so much out of its natural course. This, however, is not uniformly the case.

Mr. Hart has been a man of very active habits, and is temperate in his living. Formerly he was subject to colick, but of late years has enjoyed uninterrupted health, with the exception of a slight, but protracted fever, in the autumn of 1837.

The history of the probable cause and progress of the tumour is as follows: in November, 1833, he fell through a trap-door, and struck the right side of the perinœum against a beam crossing the angle of the opening. This was followed for about three weeks, by lameness and pain in the muscles of the upper and inner part of the thigh of that side. This uneasiness subsiding, he thought no more of the accident until June, 1835, when his attention was called to a hard immovable tumour, somewhat larger than an egg, situated about the junction of the ascending ramus of the pubes with the body of the bone. In the course of that summer it was occasionally very painful; the greatest suffering being at the inner part of the knee. This pain was alleviated by anodynes internally administered. No other treatment was employed. The swelling increased slowly, but steadily until the autumn of 1837, when I first saw the patient. Its measurements at that time, as taken by Dr. J. Watson, were as follows: circumference of the affected thigh, including the tumour, 26 inches; circumference of the sound thigh, 17½ inches; circumference of the base, as closely as could be obtained, 22 inches. From the crural arch, over the face of the tumour to its lowest posterior point, (that is about half around it in this direction,) 16 inches.

At this time it was hard to the touch in every part of its surface; and although there were many opinions entertained as to its nature, whether it was malignant or benign, whether it contained cells filled with fluid, or was only a shell of bone, or bone throughout, whether its origin was from the more dense or the cancellated structure, no one doubted its being ossific.

In October, 1837, Mr. Hart had an attack of fever, which continued for several weeks, and on recovering from it, had less pain in the limb, but the tumour grew with a much more rapid progress; and of late, its developement has been still more marked.

The anxiety of the patient to procure relief, induced him to show himself to many medical men, and among them to the first surgeons of this city; and the situation of the tumour and its character made the case one of unusual interest to the profession. The opinions he received were various as to its nature, and the practicability of removal, so that he remained in doubt as to the course to be pursued.

In September, 1838, Dr. Gibson, the distinguished professor of surgery in the University of Pennsylvania, being in this city, was requested to see Mr. Hart in consultation with Dr. Gram his attending physician, Dr. Hosack, and myself.

After an attentive investigation of the case, during which the cavity of the pelvis was examined *per rectum*, our decided opinion was stated by Dr. Gibson, of the practicability of removing the tumour, and the dangers were very fairly stated in the following order:

1st. Of dying from hemorrhage while on the operating table.

2nd. After passing through the operation, of dying within perhaps forty-eight hours from the shock given to the nervous system.

3d. In the event of passing over the two first stated dangers, of sinking under the suppuration, which, in so very large an exposed surface, would probably be profuse.

4th. Of the disease returning, provided it proved to be of a malignant character.

After this full exposition of the dangers of the operation, we were asked whether we would advise its performance, but the adverse circumstances having been so distinctly placed before him, we left it for himself, after consultation with his friends, to decide whether it should be undertaken.

In the beginning of October, he signified his intention to me of submitting to its removal; and as an evidence of his opinion of its dangers, paid all his debts, made his will, and such other arrangements of his affairs as would have been suitable, had he been certain of its fatal termination. The sixteenth of that month was appointed for its performance, and professor Gibson having consented to come on for that purpose, I gladly availed myself of his able assistance, and also of that of professor Stevens, Drs. Hosack, Cornell, and Wilkes; and there were present professor Delafield, and Drs. Gram, Boyd, Watson, A. Dubois, Halsted, and Dixon.

The operation was commenced at twelve o'clock. The patient was placed on the table with his hips, which were somewhat raised, projecting slightly over it; the thighs were separated, and I was thus enabled to sit nearly in the position of the operator in lithotomy. I made a curved incision about thirteen inches in length, from the upper part of the tumour, immediately above the pubes to its lower extremity at a point corresponding with the tendinous arcade of the triceps. Although I had carefully pressed the blood from the veins, a very free hemorrhage took place from these vessels, and I was under the necessity of placing ligatures on many of them. Another incision was made between the same points sweeping over the inner part of the thigh, and insulating a portion of integument about six inches in width. I now endeavoured to dissect off the soft parts from the tumour. A muscle, evidently the gracilis, was very much flattened and passing over the inner surface. It could not be preserved. The integuments were turned off from the outer side to the sartorius muscle and femoral vessels, but it became necessary to make an incision at right angles from the inner cut, and thus turn off the flaps from the tumour, which after some dissection, was laid bare on its anterior, inner, and posterior part. On taking hold of the tumour at this stage, it was evidently firmly attached, and by a broader base than had been supposed. A longitudinal section was made with a saw nearly to the pubes, and the two halves removed by the same instrument. After several transverse sections, the body and rami of the pubes and ischium were laid bare, and the origin of the disease was ascertained. It evidently arose from the body and ramus of the pubes, and especially that part which forms the margin of the foramen obturatorium. By strong curved knives the diseased bone was now pared off, and nothing was apparent but sound structure.

The operation continued nearly an hour, and was borne by the patient with heroic firmness; but he was in a state of extreme prostration during the latter part of the performance, so that life could only be preserved by the free administration of cordials and stimulants, and the application of sinapisms to various parts of his surface. His pulse was rapid and feeble, extremities and surface generally cold, voice faint. At the end of about two hours the pulse became more firm, and skin warm; I secured several small vessels which oozed, and dressed the wound with sutures, adhesive straps, and lint.

He had in this interval felt great oppression in the epigastric region, from which he was relieved by free vomiting. At nine o'clock, the temperature of the skin was natural, but the pulse and voice very feeble. He had slept, but without being refreshed.

Twelve o'clock, midnight: administered an anodyne of tinct. opii. The patient having expressed a desire to eat an oyster, he was permitted to do so, but it was soon rejected.

Drs. Dubois and Halsted, in whose charge I left the patient during the night, report that he had some sleep; that at five o'clock, A. M. he became insensible; and at six, when I was called, his extremities were cold, and pulse almost imperceptible. He continued to sink until ten o'clock, when, after an interval of twenty-two hours from the operation, he expired.

The hemorrhage in this operation was not very profuse. A free venous bleeding followed the first wounds in the integuments, but this was soon suppressed, and the branches of the profunda and obturator, from which I anticipated copious bleeding, gave me very little trouble. It was very apparent that his death was to be attributed to the shock given to his nervous system, which was peculiarly sensitive. Early in the operation his pulse faltered and he could only be sustained through it by the administration of brandy, and by occasionally pausing, that he might have an opportunity to rally.

The tumour, after its removal, weighed fourteen pounds avoirdupoise; two-thirds of its upper part composed of cancellated bone, the cells of which were very large, and filled with a white cheesy substance. It could readily be cut with a cartilage knife. The lower and back part appeared to be composed of firm granules of an opal colour and cartilaginous hardness contained in fibrous meshes. The tumour was covered with a cancellated fibrous capsule.

On examining the bone after death, it was apparent that the disease began from the pubes, the cancellated structure of which was enlarged. From the margin of the obturator foramen, formed by the ramus of the pubes, a cartilaginous process was sent, occupying the ordinary situation of the ligament, and apparently taking its place. It was covered on the inner surface by the obturator internus muscle, but did not project into the cavity of the pelvis so as in the least to diminish its cavity. The obturator artery was obliterated.

Was the disease of a malignant character?

I undertook the operation, believing that it was not so, and my opinion was formed from the healthy complexion of my patient; freedom from disease, and the slow progress of the tumour, which was more than three years in attaining its size.

I was apprehensive that it might be necessary, (and was prepared,) to remove the ramus of the pubes, and of the ischium, which certainly would have made the operation more formidable.

What would have been the effects of such a step,—dividing the ligament of the pubes, and removing the support which these parts naturally give to the pelvic viscera?

ART. III. *Cases of Sensitive Tumours of the Female Urethra, with remarks.* By ALEXANDER E. HOSACK, M.D.

IN May, 1835, I was consulted by a servant woman, in a family where I was in attendance, for a complaint which she said had caused her considerable distress, and, as she expressed herself, it appeared as if something had dropped into the passage immediately after making water, causing her great pain at the moment, and which frequently bled, particularly upon being touched by her linen. Upon the slightest exertion she was seized with bearing-down pains to such a degree as to compel her to take to her bed. These difficulties, she said, had been gradually increasing upon her for two or three years, and being unmarried, she was from delicacy induced to conceal her sufferings until no longer able to bear them.

From this statement I was induced to make an examination, which clearly explained the cause of all her trouble. I discovered two or three little tumours immediately within the meatus urinarius, to which they were attached by a narrow neck. They were of a florid red colour, and appeared to be covered by the delicate lining membrane of the urethra. They were exquisitely sensitive and bled upon the slightest touch. In form they resembled a split pea, varying from that in size to a small kidney bean, and placed upright, in such a manner, as to break the flow of urine. The patient did not however complain of the pain upon urinating as her greatest distress, for it was not to be compared to that caused by exertion, or from contact of the dress, which was frequently excruciating.

By raising these tumours with a probe, I discovered their attachment to be limited to the margin of the urethra, and suggested to her the propriety of having them removed, which I assured her could be readily done, and with comparatively little pain. Having obtained her consent, I snipped them off with scissors: the hemorrhage was not excessive. In a few days the part was healed, and she appeared to be completely rid of the evil, until about six weeks after, when the sensitiveness and other symptoms returned. In the course of three months I was again requested to relieve her if possible by a further operation. Upon examination, I found the margin of the urethra fringed with the same highly organized structure. It appeared as if the lining membrane had been prolapsed and was turgid with blood; or in other words, had shot out like a fungus. Under these circumstances I determined to remove the diseased structure by excising the meatus urinarius, and this was accordingly done. The wound in due time was healed, leaving the parts apparently sound, with the exception of a few spots of discoloration in the folds of the nymphæ, which I afterwards destroyed by caustic.

The extremity of the urethra remaining somewhat harder than might have been expected in sound parts, I expressed doubt whether it might not be the incipient stage of schirrhus. The disease, however, in the course of a few months returned with all the distressing symptoms as before enumerated. The patient being again willing to submit to any operation that I might advise, I determined to remove the urethra to an extent that would hold out a better prospect of success. My friend, Dr. Wilkes, with whom I consulted, confirmed this opinion, and assisted me in the operation.

The patient being placed upon the bed in a recumbent position, with the legs flexed upon the body, I began with measuring the length of the urethra, by introducing the female catheter, and marking it the instant the urine began to flow; this precaution I considered necessary, from the fact that the length of the urethra, in females, is very variable; at the same time, I was unwilling to encroach too much upon the bladder, which might endanger consequences more distressing to the individual than the existing disease.

The preliminaries being attended to, I siezed the fungous excrescence with the *pince* of *Museux*, and drawing it out, I circumscribed the urethra with a knife, carried on the dissection until I had detached about three-quarters of an inch in extent, as I supposed. I then examined the urethra at the upper extremity of the wound, and finding it perfectly natural and free from all hardness, I separated it at that point. The hemorrhage for the moment, was very great; but by pressure, constantly kept up with a compressed sponge, it was arrested, or so much restrained, as to do away with all anxiety on that account.

The patient having made water a short time previous to the operation, I did not consider it necessary to leave a catheter in the bladder, which I afterwards regretted, as I was obliged to draw off the urine the following morning, but not without considerable difficulty, as may be imagined. I determined, however, for the future, to leave the catheter in the bladder, or at least until the urine should flow at its side; which took place on the sixth day, when I removed the instrument. Since which time, she has enjoyed full control over that organ, and voids urine with comparative ease.

It is now six months, and no return of the disease. No bougie was introduced to keep open the mouth of the urethra, as might *a priori*, have been considered necessary. Indeed, I purposely avoided using it, lest the irritation might predispose the parts to a return of the disease. Upon examining the part removed, I found the urethra to be very much thickened and hardened at its extremity, but this circumstance not being observed in other instances of this disease as related by different authors, I must conclude that it had no agency in the growth of these tumours, but was probably the result of irritation.

I first met with this disease, in the practice of my friend, Dr. Mott, who, several years ago, was consulted by a gentleman on account of his daughter, who laboured under this distressing complaint. The case was one of great interest, both from the circumstance of the patient being at the delicate age of eighteen, and on the eve of marriage. She had suffered from this disease for two years and upwards, and considering it an insurmountable objection to marrying, had frequently deferred the nuptial ceremonies, at the same time not willing to break off her engagement, and unable any longer to conceal her actual situation, she disclosed the true cause to her father, the only surviving parent, who immediately came to New-York, and placed her under the care of Dr. Mott.

In this case, Dr. Mott, after carefully examining the disease, determined upon removing the *meatus urinarius*, to the margin of which two or three small flattened and vascular tumours were attached. They were of the size of small beans, highly florid, and exquisitely sensitive. The wound healed kindly after the operation; the result was perfectly successful, when she returned home to her friends, and afterwards married.

REMARKS.

Although this disease is one of comparatively rare occurrence, much has been written upon it; still, elaborate works on surgery and midwifery, have not, with but one or two exceptions, in any way noticed its existence. I confess it appeared to me to be quite a novelty; and as regards the excising of part of the female urethra for its removal, or for any other object, I do not recollect ever to have heard of a single instance; nor have I yet been able to discover that it has been done to any extent, beyond the mere margin of the external orifice of the urethra. This disease is first spoken of by Morgagni, who, under the head of excrescences and other diseases of the female urethra, remarks: "examining the body of an old woman about the beginning of 1751, I met with a small triangular excrescence within the external orifice of the urethra, but it was not prominent;" and, in another part of the same chapter, he goes on to state, "that there is a red and fungous excrescence, which is of the size of a bean, sometimes to be observed attached to the orifice of the urethra."

This disease is also described by an Englishman by the name of Hughes, of Stroudwater, in Gloucestershire, in 1769. In a case described by that gentleman, he speaks of it as of "a red colour, and of a softish, spongy texture, with an irregular, jagged surface; was sore when touched; and a bloody serum oozed from it." The patient was eleven years of age, and of a very thin habit of body; it had existed for three years. In this case, Mr. H. removed the *Meatus Urinarius*, which completely included the disease. The patient suffered for some time from retention of urine; only, however, during the healing process. Five years had elapsed since the operation, and the patient continued perfectly well.

"On examining the fungus, after the operation, it appeared about the size of the nipple of an adult; its anterior part being expanded, formed, as it were, a little cup, with its border indented like a cock's comb, having a hole in its bottom which was the orifice of the urethra, which ran through the body of the fungus; the internal membrane of the urethra was continued to the edge of the indented border, which was of a deeper red colour and softer texture than the other part of it."

In volume XIII. page 784, of the Lancet, Mr. Wardrop has published four cases of this disease. The first was in a young girl thirteen years of age; the second in a lady of thirty years of age; the age of the third is not given; the fourth was upwards of sixty years old. In all of these cases Mr. Wardrop speaks of the exquisite sensitiveness as the most prominent symptom. In one of the cases above alluded to, the disease returned after marriage, when the patient again applied to Mr. W. for relief.

He states "that the tumour had now assumed the appearance of a bright scarlet fungus, encircling the meatus, and was attended with such exquisite tenderness as to prevent sexual intercourse. The orifice including the disease was removed, and it did not return."

Boyer makes mention of a fungus occurring in the female urethra. It is however noticed in a more particular manner by Bromfield, and according to Mr. Hughes, accounts are also given of it by Sharp, Warner, and Jenner. Mr. Wardrop also refers to Chaussier and Dubois, and states that it is particularly noticed by Madame Lachapelle as well as by Rosenmuller, Vogel, Kaldibrand, Drochaska, and some other German pathologists.

In many of the instances referred to by the older writers, the symptoms were at first mistaken for those of stone in the bladder, and in the case just related by Mr. Hughes, the disease was mistaken by those who were first consulted for prolapsus of the uterus, and actually treated as such, nor was the error discovered until the patient was unable any longer to bear the pain consequent upon the pressure applied to that viscus.

By reference to the foregoing cases we arrive at the following conclusions:—

1st. That the disease is characterized by peculiar symptoms.

2d. That it is not confined to any age.

3d. That it is unaccompanied with discharge, unless the parts be chafed or abraded.

4th. That, in order to prevent a return of the disease, it is better to remove, at once, the external orifice of the urethra, including the tumours.*

5th. That it is a complaint of slow growth, and does not attain to any great size; for, in no instance yet recorded, so far as I am enabled to learn, has it been found larger than a small cherry.

Art. IV. *An Essay on Cancer of the Uterus.* By John A. Swett, M.D. (Read before the New-York Medical and Surgical Society, Sept. 1, 1838.)

I propose to offer to the Society some observations on cancer of the uterus, founded upon fifteen cases of the disease, more or less perfect in their details, collected during the last six years. The result of my observation has been, that cancer of the uterus is a disease simple in its elementary characters, uniform in its history and progress; the result of my reading on this subject has been of a different character, leading to a good deal of uncertainty and confusion. The reason for this, appears to me, to reside principally, if not wholly, in the fact that authors have confounded under a common name, diseases entirely different in their nature and pathology. "What is cancer?" says M. Andral. "In my opinion, it is no particular change in the organization of parts. Every lesion either of nutrition or of secretion, which terminates in incurable ulceration, this is cancer." This false and unphilosophical view of the subject, was but the expression of the general sentiment at the time it was written. No wonder then, that with such loose notions prevailing, the student of books should find little to aid him to settle the principles of correct diagnosis.

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* *Note.*—The only inconvenience to be expected from removing the *Meatus Urinarius*, will be that of retention of urine. This is not, however, a necessary consequence; for among all the authorities quoted, but two cases are mentioned in which it occurred; one related by Mr. Hughes, and the other by myself. In both instances they were spontaneously relieved, on the fifth or sixth day.

PATHOLOGY.—The true cancer of the uterus appears to me to be a secretion, *sui generis*, deposited in the molecular structure of the organ. Like most other foreign deposits, it affects a preference for particular portions of the organ, passes through certain regular determinate stages, and is dependent upon causes we term constitutional.

If we examine the uterus during the early stage of the cancerous deposit, the first sign of change is, that the part affected (and in a great majority of instances this is the neck and that alone,) is more pale and dense than natural, without being at all increased in size; for the morbid deposit simply takes the place of, without being added to, the muscular tissue of the organ, which becomes gradually absorbed as the disease advances, so that at length no traces of it remain. It is not common, however, for the deposition of cancer to cease with the complete absorption of the natural tissue; it frequently goes on until the diseased organ attains to three or four times the size of the healthy one. I have never seen it exceed this, even in cases where large masses of cancerous matter were deposited in the tissues of other organs. This primary change in the structure of the uterus, can only be accurately established by the careful study of cases where the neck of the organ has undergone a complete transformation, so as to leave no doubt as to the nature of the disease, and where the body and fundus, subsequently affected, present the characters above described. The fundus appearing simply more pale and dense than natural; the body exhibiting distinct matter of a linear form, of a dead white or blueish tinge, mixed with the pale, but easily recognised natural tissue, giving to the part a variegated or marbled aspect; until, on arriving at the neck, we find this portion completely converted into a firm dense mass, with difficulty divided by the scalpel, presenting an uniform smooth surface, without trace of organization, still preserving, more or less completely, the natural form of the organ. This, the first stage of the cancerous deposit, is well known to pathologists under the different names of schirrus, schirroma, tissu, lardacé, &c.

After a longer or shorter interval, probably varying greatly in its duration in different cases, sometimes before, sometimes after the complete conversion of the uterus, the cancerous deposit undergoes a new change; it begins to soften, commencing as before, in the neck of the organ and gradually extending towards the fundus, a fact easily ascertained by dissection. As the softening process advances, you notice the following changes in the mass; first, some traces of imperfect organization, indicated by the appearance of small red lines or spots; secondly, the mass from appearing uniform and homogeneous in its structure, presents an areolar or molecular structure, especially when torn. (*Cancer pultacé of Cruvehlier.*) But the process of softening does not stop here; it gradually goes on until the dense schirrus is converted into a thick white liquid resembling perfectly in appearance lime prepared for white-washing, which, first formed at the neck, finds a ready passage through the vagina, accomplishing, at the same time, the more or less rapid destruction of the organ.

Such, so far as I have been able to observe, is the pathological history of cancer of the uterus. That this morbid deposit is essentially the same, in its most important characters, with the true cancer of other organs appears to me clear from the fact that they sometimes, though less frequently than I had supposed, exist together in the same individual. I have, however, never yet seen the schirrus deposit in the uterus pass into what is called by pathologists, encephalöid matter, which I am convinced, by sufficient examination, is but the transition stage from the dense firm schirrus, into the pultaceous and liquid state. In a very remarkable case of cancer of the lungs, this fact was most clearly demonstrated. Indeed, it appears to me highly probable, that the form of cancer called encephalöid depends very much, if not entirely, upon the natural density and degree of resistance in the tissue, the seat of the deposit, and, consequently, that it is most frequently found, so far as I have noticed it, in the substance of organs of a loose texture as the lungs or liver, and in one instance under the mucous membrane of the vagina, rather than in those of a more dense structure like the uterus.

Another peculiarity of cancer of the uterus is, that it does not become encysted, as it not unfrequently does when seated in the internal organs, especially the liver. The reason of this appears clear. The cancerous deposit I have never found encysted, except it was at the same time in a fluid state; a condition evidently preparatory to its evacuation. In cases where this cannot easily be effected, nature by a happy provision noticed indeed in other cases of a different nature, but when the same principle is to be applied, separates or isolates the foreign deposit from the surrounding tissues by enclosing it in a cyst, in which condition it may probably remain for an unlimited time without disturbing the healthy functions of the organ. But, in the uterus, as we have already seen, a ready passage is offered to the softened cancerous deposit through the vagina, so that this second provision of nature becomes no longer necessary.

Another circumstance important to notice in this connection is, the great tendency of the cancerous deposit while passing into the fluid state to decomposition. The pure white and inodorous substance becomes of a gray or sometimes blackish colour, exceedingly offensive, and breaking down rapidly into a grumous detritus is discharged from the vagina. The frequency of this mode of termination renders it an important point in the diagnosis of the advanced stage of cancer. In examining such cases after death, I have noticed that the decomposed portion was always superficial and not separated from the portion beneath by any distinct line of demarcation.

Cancer of the uterus is not always simple. In many cases the same morbid deposit is found in other organs, more or less advanced in its progress. I regret that my observations on this point are less perfect than I could wish, circumstances frequently occurring to prevent me from making as complete an examination as the case might require. I have most frequently found the cancerous deposit in the following situations: in the tissues composing the vagina, bladder, and rectum, especially the former, leading to the production of vesico-vaginal and recto-vaginal fistula; in the uterine veins; in the lymphatic glands of the pelvis; in the cellular tissue beneath the peritoneum lining the pelvis; in the substance of the muscles in the pelvic cavity, and in those of the thigh; in the liver; the lungs; the pleura; the bones of the cranium.

Besides this deposition of cancer in so many different tissues and organs, I have commonly found evidences of inflammation, which in this, as well as most other chronic diseases, is the immediate cause of death—evidences of recent inflammation of the lungs or of the mucous membrane of the intestines are most frequently found. In addition, I have generally met with evident signs of inflammation in the immediate neighbourhood of the cancerous deposit, when it has advanced to its last stage; in the vagina, the rectum, and bladder, indicated by redness, softening and thickening of the tissues, especially the mucous membrane, by vegetations and superficial ulcerations not cancerous in their nature.

I will now offer to your attention a few dissections of cancer of the uterus, which will, I think, illustrate its pathology more clearly than any general description can do.

The following may be regarded as a type case of the disease. The previous history is very imperfect: the patient was about thirty-eight years old and had been sick about seven months; she complained very little of pain; the most striking symptom in her case was hemorrhage from the uterus, which was very severe towards the close of her life.

All the organs were extremely pale. There was still a good deal of fat, especially about the pelvis; the uterus was twice its natural size without adhesions to the surrounding parts, and preserving nearly its natural form; the neck was transformed into a substance of a pure white colour, and so soft that the slightest scraping with the scalpel reduced it to a liquid resembling lime prepared for white-washing; the body of the organ was composed of a firm, white, homogeneous substance, without any trace of fibres, but presenting small red spots; the fundus appeared natural, except rather pale and firm. The progress of this disorganization was gradual without any distinct line of demarcation. There was noticed upon the cut surface, especially upon that portion of it which was most dense, and also in the cavity of the organ, the orifices of vessels both large and numerous. The lining membrane of the uterus still existed, but of a brownish red colour, very much softened and somewhat thickened. The vagina, the bladder, the rectum, were healthy, as were the left ovary and fallopian tube. There was dropsy of the right ovary and tube, the fimbriated extremity of the latter being adherent and plunged into a mass of the cancerous deposit. The lymphatics extending along the great vessels of the pelvis were enlarged. The other organs were not examined.

The following is an example of the extent of the cancerous deposit in some instances:—

The disease was most advanced in the neck of the uterus and in the posterior portion of the vagina, where a communication existed between the vagina and the rectum. The cancerous deposit here presented externally an extremely irregular surface composed of soft, reddish or livid granulations, which, when cut, exposed a soft, dead-white, still granular surface, giving out, on pressure, a fluid resembling perfectly lime prepared for white-washing. The body and fundus of the organ still retained its natural appearance, except that it was slightly hypertrophied and more firm than natural. The cavity of the uterus was also enlarged and filled with pus of tolerable quality; its mucous membrane was livid and softened. A considerable quantity of the cancerous deposit was found between the vagina and bladder, and one of the large uterine veins was filled with it. The ovaries were smaller and firmer than natural; the liver was altered in its form, bosselated, and the seat of extensive cancerous deposits. These were all, or for the most part, in a fluid state extremely offensive and contained in firm white cysts divided by membraneous partitions. The largest of these cysts was capable of containing at least half a pint of the fluid which resembled precisely in appearance that which had been previously pressed from the uterus; the surrounding substance of the liver appeared rather darker than natural, but was otherwise healthy. In the superior portion of the os frontis, a circular aperture, an inch in diameter, existed; its edges were rough, and when viewed from the inner surface of the bone, appeared covered with fungus granulations filling up the opening, and adhering to the dura mater which was not otherwise diseased. Professor Cruvehlier, by whom this dissection was made, regarded the disease as having its point of departure in the uterus, thinking that the cancerous deposit was taken up by the veins and deposited in other organs, precisely as, according to this pathologist, pus is transported to remote organs in uterine phlebitis.

I will conclude this account of the morbid anatomy of cancer of the uterus, with the following singular case which I examined about a year since at the Bellevue Hospital. The patient was a negress, about fifty years old, who had been subject to hemorrhage from the vagina for six or seven years.

A tumour of considerable size, two or three inches in diameter, projected from the posterior and left lateral surface of the vagina, apparently developed in the submucous cellular tissue. About one half of the tumour was already destroyed; and the surface where this destruction was still going on was in a state of decomposition, presenting a dirty, grayish, irregular appearance. After cutting through the tumour, the decomposition was evidently confined to the surface, the portion beneath being formed by the cancerous deposit partially softened. That portion of the vagina below the tumour was inflamed; its posterior surface presented a large irregular ulcer with thickened edges and a grayish base, which appeared to be formed by a thin layer of partially softened cancerous matter. The uterus was found high up in the vagina, and was so completely altered in its form that it could only be recognised by its situation, and by its connection with the fallopian tubes. The body was elongated laterally without any determinate shape, and the neck was entirely wanting. There was, however, a mamillary projection into the vagina, which might originally have constituted this portion of the organ, which presented no traces of an os tincæ, and was filled with particles resembling bone. There was another small tumour under the peritoneal coat, covering the fundus. After dividing the fundus, its natural texture appeared manifest, only more pale and dense, probably from the presence of the cancerous deposit. The lower lobe of the right lung was inflamed in the first and second degree.*

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* Since this Essay was prepared for publication, I have made a *post mortem* examination of a case of cancer of the uterus, occurring in the practice of Dr. Vandervoort. The history of the case presenting nothing new, I shall not detail it. I would only remark that the patient was twenty-nine years old, and that the duration of the disease was about sixteen months. The *post mortem* appearances, however, presented some points different from what I had noticed in any previous case, — I will therefore detail them in full.

CAUSES. — In speaking of the causes of cancer of the uterus, I shall confine myself to one point, — to examining the evidence there is against the prevailing opinion that inflammation is the cause; an opinion advocated by Broussais, and, so far as I know, adopted by most of the leading pathologists among the French. My own observation has led me to an entirely different conclusion on this point. In the first place, if we examine the uterus during the early stage of the disease, as I have sometimes done when patients have died of some other disease, we notice no appearance of inflammation, or even of increased action. The organ is not increased in size; its substance appears commonly more pale than is natural; the peritoneal coat, the vagina, in direct contact with the diseased portion, appear perfectly heal-

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Emaciation very marked, skin generally of a straw colour. On opening the cavity of the peritoneum, the surface of the intestines was found spotted with white masses, which, on examination, were found to be the cancerous deposit beneath the peritoneal coat; the same deposit also existed, more abundantly, between the folds of the mesentery. The uterus was quite fixed in its position, adhering to the sigmoid flexure of the colon, to the superior portion of the rectum, and to the posterior surface of the bladder. After separating these adhesions and removing the organ, it was found about three times its usual size, still preserving nearly its natural shape. After dividing the organ from the fundus downwards, it was ascertained that *its cavity was obliterated*, that the neck was destroyed and blended with the diseased vagina in an uniform mass; and that the whole muscular substance of the body and fundus had degenerated into the cancerous deposit, softened in some portions. The vagina was the seat of great destruction from the softening and decomposition of the cancerous deposit found under the mucous membrane. The right ovary was adherent to the fundus, presenting a shrivelled appearance, containing small masses of the cancerous deposit. The left ovary was also adherent to the body of the uterus, near the neck, also shrivelled, but containing no masses of cancer. The fallopian tubes were rather large and congested. The subperitoneal cellular tissue investing the bladder, rectum, and pelvic cavity, was much loaded with the cancerous deposit. The bladder was contracted; its mucous membrane healthy; the mucous membrane of the rectum was somewhat softened. The liver was somewhat larger than natural; the right lobe contained a large mass of the cancerous deposit, and several smaller ones in the first stage of the disease; these were not encysted; but a small portion that had softened, was beginning to be enclosed by a cyst; the portions of the liver surrounding these deposits were perfectly healthy. *The ureters and pelves of both kidneys were much dilated*, caused apparently by the obstruction to the passage of the urine from the deposit of cancer into the cellular tissue about the bladder. The substance of the kidneys was more pale than natural.

No symptoms of any obstruction to the free passage of the urine into the bladder, existed during life. Dr. A. C. Post has informed me that he has met with a similar case of dilatation of the ureters in cancer of the uterus.

thy. It is true, that in the progress of the disease, when the cancerous matter has become softened, we do find evidences of inflammation, especially in the vagina, produced evidently, as I suppose, by the passage of an irritating matter over its surface, just as we find inflammation of the bronchi communicating with a tuberculous abscess, equally the result of a secondary irritation. In the second place, the circumstances under which cancer of the uterus commences its course, are not such as would lead us to suspect the existence of a previous inflammation as its cause. We might indeed suppose, if this was the constant or even frequent cause of cancer, that prostitutes, especially those of the common class who fall into the hands of our dispensary physicians, would at least, occasionally, become the victims of it; but this, by the concurrent testimony of all, is not the case. I have never yet met with a case in a public prostitute. I have also examined, with great care, every patient that has fallen under my observation, with reference to any evidence of pre-existing uterine irritation, such as long-continued leucorrhœa, dysmenorrhœa, and in such as had had children, (by the way, hardly without an exception) as to whether they had miscarried during pregnancy, whether they had suffered from difficult or preternatural labours, or had been delivered by instruments, and never could find any conclusive evidence, from this study, of the constant or even frequent existence of previous uterine irritation. Again, there is another circumstance that militates very strongly against the idea of the inflammatory origin of cancer of the uterus, and that is the age of the patients that are most frequently found affected with it. It is an indisputable fact that a large proportion of these have passed the *turn* of life, when the active functions of the uterus have ceased, and when it is tending constantly to a state of atrophy from mere inaction. M. Tanchou has published in the Journal des Connaissances Medicales for November, 1836, some extended statistics on the fatal diseases of the female sexual organs, founded upon 2568 cases; from which it would appear that from the age of twenty to thirty years, undoubtedly the period when inflammatory diseases of the uterus would be most likely to prevail, only one in five died of cancer; while from fifty to sixty years, the proportion was precisely reversed, five to one dying of this disease. If, then, the idea of the inflammatory origin of cancer of the uterus gains no support from the study of its early pathological history, nor from the circumstances under which it is developed, I fear we must rest satisfied with complete ignorance as to its real causes. Much foolish speculation has been published upon this as well as upon other points connected with the pathological conditions of the different organs, which, resting entirely on conjecture, gains no credit from those who demand facts on which to rest their belief.

There is one other point connected with the causes of cancer of the uterus which would be well worth examining, but to which I regret I have not had the means of paying sufficient attention; and that is, the hereditary predisposition to the disease. It is highly probable that the disease is frequently transmitted in families. Much care and observation would be necessary to establish the just value of a point like this, better opportunities, indeed, than fall to the lot of young practitioners.

HISTORY.—Let us now pass to the study of the history of the disease during life. This part of our subject can, I think, be best illustrated by cases.

April 28, 1836. A cook, of a good constitution and ordinarily in the enjoyment of good health, with the exception of an attack of the cholera in 1832, was accustomed to a laborious life in a low, damp kitchen, although to sleep constantly in the upper story of the house. She began to menstruate at the age of nineteen years. During the early part of her life, until the age of thirty years, the menses were too abundant, returning every fortnight, and continuing frequently eight days. After this period, they became less abundant; and, finally, ceased naturally at the age of forty-five. She had had two children, the last in 1814. Her labours were always easy and natural; she had never miscarried. Immediately after the cessation of the menses, she began to be affected with a leucorrhœal discharge, which gradually increased in quantity, assuming a reddish tinge. About six months ago, without evident cause, she became affected with severe uterine hemorrhage, which continued only one day. This was preceded, for a week, by pains resembling those of colic, in the lower part of the abdomen, pain in the loins, the groins, and the thighs. These hemorrhages have continued to return about once every month, followed, during the interval, by the thin, reddish discharge. The last hemorrhage which occurred about six weeks ago, was more abundant than before, and accompanied by more pain, especially by darting pains in the pelvis and thighs. About a week after this, she began to pass her urine involuntarily, having previously suffered no pain in performing this function; and, at the same time, to experience some embarrassment, with a little pain, in going to stool, her bowels becoming constipated, while before they were sufficiently free.

This was her *actual condition* on the 26th April, six months after the first hemorrhage.

She was considerably emaciated and feeble, with a morbid-faced complexion, without the slightest shade of the straw colour.

The senses, the intellect, &c., unimpaired. Her appetite was good; her digestion easy; her tongue slightly œdematous and covered with a thin white coat, but moist. There was no disposition to nausea or vomiting.

There was neither cough nor palpitation of the heart.

She suffered from pain about the upper portion of the sacrum, and in the pelvis, which was sometimes excruciating, — from a sensation of drawing and pricking in the groins, extending down and across the thighs, in the direction of the sartorius muscle, to the knees. These pains occurring in paroxysms, always commenced in the pelvis affecting the thighs consecutively; they always abated together. There were intervals when she did not suffer at all, except from a sensation of weakness or heat in the pelvis, especially when she passed her urine. Pressure in the hypogastric region produced very little pain, and discovered no distinct tumour, but there was an evident feeling of fulness and resistance extending to the groins. There was a complete absence of febrile symptoms.

She remained nearly in this condition until the 9th of September, about ten months after the first hemorrhage, when she died, from the gradual progress of the disease. Her intellect remaining unimpaired, and suffering very little from pain, being chiefly annoyed by the discharge from the vagina, which had become very offensive. One fact in particular was noticed, that although the urine was passed involuntarily until the close of life, yet, after a time, it ceased to be attended with any pain.

Post mortem Examination. The neck of the uterus was entirely destroyed; the body was reduced to a blackish detritus hanging on shreds; the fundus was more firm and pale than natural, but not disorganized, and of the natural size. The vagina and bladder communicated with each other by a large opening two inches in diameter, the edges of which were hanging in shreds. The mucous coat of the vagina was covered by a thick false membrane, the probable cause of the cessation of the pain in passing water during the latter period of life. The mucous membrane of the rectum was, in portions, red and softened, and the submucous cellular tissue much thickened. The lower lobe of the left lung presented the second stage of inflammation. A few chalky tubercles were found at the summit of the right lung; no other lesion was discovered.

The above case appears to me to present a correct history of simple cancer of the uterus, at least, in most of its particulars. Let us now examine the prominent symptoms of the case, and by comparing them with what is noticed in other cases, endeavour to appreciate their just value in the diagnosis. The patient, you will recollect, was a woman of a healthy constitution, and, although subject to profuse menstruation until thirty years of age; yet, after that period, this disorder had ceased, and had not prevented her having healthy children, and passing the turn of life in the most natural manner. The first suspicious symptom which occurred, was a leucorrhœal discharge, which gradually assumed a reddish tinge;—this is a fact well worth noticing. I remember hearing M. Louis remark, in relation to a similar case, that the occurrence of leucorrhœa, after the final cessation of the menses, was always, however trifling it might be, to be regarded with great anxiety, being commonly the first symptom in the developement of some organic disease of the uterus, not necessarily of cancer, but also of uterine polypi and of fibrous tumours. This discharge is not to be regarded as connected with the cause of the cancerous or other organic change dependent upon pre-existing uterine irritation; but, like the bronchial affection in the early stage of phthisis, it is the *consequence* of the morbid deposit. Another peculiarity attending this discharge, was its sanious appearance even early in the disease, gradually becoming extremely fetid, thus affording a very common and valuable indication of the disease after decomposition has commenced in the superficial portion of the cancerous deposit. It also not unfrequently happens, although it was not noticed in this case, perhaps from want of attention, that portions of the partially softened cancerous deposit are found in the discharge from the vagina, or as a deposit in the urine, in cases where vesico-vaginal fistula exists, precisely as we find the softened tuberculous matter mixed with the secretions of the bronchi in phthisis.

Again, we notice in this case, the occurrence of uterine hemorrhage, preceded for a week by signs of severe local irritation. Uterine hemorrhage is by far the most important of the rational signs of cancer, for it is seldom absent. Like the hemorrhage from the lungs in phthisis, it is frequently the first symptom that awakens the fears of the patient by its suddenness and violence, while, in other cases, returning with less violence, and at regular intervals, it is mistaken for the menstrual discharge, even by those who have already passed the *turn* of life. The constancy of this symptom may be argued from the fact, that it was present in every case I have observed with sufficient accuracy to render the history of any value, and in one half of these, at least, it was the first symptom that attracted attention; in the remainder it was preceded by a leucorrhœal or sero-sanguinolent discharge. I remember hearing M. Louis remark that in nineteen of twenty-two cases of cancer of the uterus that had been observed by him, hemorrhage had occurred at the commencement, and usually under a severe form. The importance of uterine hemorrhage as a symptom of cancer being established, we must guard against the grave mistake of trusting to it as a diagnostic sign independent of other symptoms,—for it is a symptom also, of other organic diseases of the uterus, especially of polypi, growing from the cavity of the organ; of fibrous tumour developed in its substance, and of that peculiar form of chronic inflammation of the neck of the uterus attended by softening and enlargement of the part affected, several cases of which I read at a meeting of the Society last year.*

The character of the pain in this case, is another point worthy of notice. Pain commencing in the upper portion of the sacrum, and in the pelvis, sometimes excruciating, followed by a sensation of drawing and pricking in the thighs, aggravated by an increase of the pain in the parts originally affected, and, at times, ceasing entirely with it. It is not very easy to explain in a satisfactory manner, the cause of these painful sensations, at least, of those that occur in the thighs. As they are frequently accompanied by a sensation of numbness, as they occur in the direction of the branches of the anterior curval nerve, it might be supposed that they might all be the result of pressure on the plexus that gives origin to this nerve; but I am satisfied, from sufficient dissection, with a view to this point, that the uterus in cancer, seldom, or never, attains a sufficient size to effect this. The mode in which the pain commenced and was propagated in the case related above, renders it sufficiently probable that it is the simple effect of irritation. The diagnostic value of these pains may be estimated by the fact, that they occurred in every case, the history of which is perfect, and in a large proportion of these, it was of a darting kind at intervals—a kind of pain supposed to be diagnostic of cancer. Finally, we notice in the above case, the freedom from febrile symptoms during the whole progress of the disease, and its termination by the gradual exhaustion of the vital powers, hastened by the occurrence of a latent pneumonia.

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* An Essay on Congestive Induration, and Congestive Softening of the Uterus.

The following case presents the disease under a more aggravated form than that already detailed.

A market-woman, aged thirty-nine years, of good constitution, had never been married, but had lived ten years as a mistress without having had children or abortions, although always regular in her menstrual function, and free from leucorrhœa before the commencement of the present disease. During the month of November, eighteen months ago, after having passed the whole day in the open air, with her hands almost constantly in cold water, and during the interval of the menstrual periods, she became affected with a sero-sanguinolent discharge from the vagina, which continued fifty days. This discharge was occasionally attended with small clots of blood, and accompanied by pain in the sacrum, the pelvis, and soon after, in the thighs. Two months after the cessation of her first hemorrhage, she experienced a second attack, of the same general character, and so on, to the number of ten or twelve, which varied in their duration from two to ten days, with a colourless serous discharge during the intervals. She has experienced also a sensation of *drawing* in the thighs; of pain and weight in the fundament; pain also in passing urine; and has discovered in her stools a glairy matter, and perhaps blood; she has been obliged to quit her occupation for a year.

I found some difficulty in obtaining a very accurate account of her *actual condition* because of her intense suffering; her countenance was expressive of the pain she was enduring; it exhibited no appearance of the pale straw colour supposed by some observers to be diagnostic of cancer.

Not much emaciation; intellect perfectly clear; excruciating pain in the sacrum, the pelvis, the groin, and the thighs; no pain in the fundament, but some in passing urine. The lower portion of the abdomen was distended, as in the fifth month of pregnancy, and extremely sensitive to pressure; leucorrhœa, vomiting, fever.

This patient died in about ten days, without any relief from her excruciating suffering.

Post mortem Examination. We found the uterus between two and three times its natural size; preserving perfectly its shape, smooth and regular upon its external surfaces, and nearly or quite degenerated into schirrus which had hardly begun to soften. A large deposit of schirrus had taken place in the cellular tissue about the uterus, the bladder, and the rectum, in the substance of the psoas muscles, and in those of the thighs.

This case presents the most severe instance of the disease I have ever witnessed. The patient died not from gradual exhaustion, as in common, but from the unremitting severity of her symptoms, at a period when her strength and general appearance, a short time before, had indicated a much more prolonged existence. The great tenderness of the abdomen on pressure, the vomiting, the fever, had led to the supposition that acute peritonitis had supervened; but on examination after death, no traces of it could be discovered.

A market-woman, aged sixty-one years, of good constitution, and without family predisposition to disease of the uterus, was married and delivered of her first child at the age of sixteen years. She has since had fourteen children; three of her labours were preternatural; the last, at the age of thirty-eight years, requiring the introduction of the hand. She ceased to menstruate when forty-two years old.

Four years ago, being then fifty-seven years old, she began to notice slight hemorrhages from the vagina, which she mistook for a return of the menses, and which appeared six times in the course of a year; after which time she had a severe attack of hemorrhage, accompanied by a sense of painful weakness and of weight in the pelvis; she became constipated, had chills and fever, and lost flesh and strength. For six months, however, she had no return of the hemorrhage, but at the end of that period she began to discharge from the vagina a thick, brownish-red fluid, which has continued until the present time, that is between two and three years; still, without return of the hemorrhage. The pain in the pelvis has increased and now extends down the outside of the legs to the feet. For two months the discharge of urine has been involuntary; for four months previous, its passage had been attended by bearing down pains, and it could be more easily passed in bed than while sitting.

ACTUAL CONDITION.—Intellect perfect, expression of countenance tranquil, slightly straw-coloured. The patient is perfectly aware of the necessarily fatal termination of her disease. Emaciation and loss of strength, sleep disturbed.

Tongue cracked and covered with a thin white coat, appetite and digestion natural. Abdomen full and generally sensitive to pressure, especially in the hypogastric region, which is, indeed, too sensitive to permit the search for a tumour. Constant pain in the pelvis, which is occasionally of a darting kind. The urine deposits a dirty white, demi-transparent gelatinous substance, which forms an uniform thin layer, adhering closely to the bottom of the vessel. The superior and anterior portion of the vagina presents an ulcer (through the speculum,) an inch in diameter, with hard, elevated, irregular edges, painful to the touch; the seat, undoubtedly, of the vesico-vaginal fistula. The body of the uterus is inclined forward; the neck is softened, and pultaceous; an offensive odour is communicated to the finger when withdrawn; pulse eighty, calm; no fever.

This case remained under my observation about a month, constantly growing worse, when I ceased to see it. No doubt can be entertained of its nature. The general history of the case, the vesico-vaginal fistula, the softened cancerous deposit noticed in the urine, the examination by the speculum and the touch established the diagnosis.

The hemorrhage in this case was different from what is frequently noticed, inasmuch as it was trifling at the onset, exciting no alarm and returning at intervals, was mistaken for a return of the menses, until, after the lapse of a year, one severe attack of hemorrhage occurred, after which it ceased.

We observed, also, in this case, and for the first time, a peculiar tinge of the skin, *a pale straw colour*. I speak particularly of this circumstance, which to some may appear of trifling importance, because an eminent observer, I refer to M. Louis, is disposed to regard it as a diagnostic sign of cancer. My own observation has led me to *this* conclusion. In many cases of cancer, this peculiar colour of the skin is very marked; in other cases, and certainly in a considerable proportion of the whole number, it is entirely absent. Again, in cases of uterine disease entirely distinct from cancer, it exists, sometimes, in a very marked degree, as I have noticed particularly in two cases of fibrous tumour of the uterus, in which cases it was probably dependent upon repeated hemorrhage from that organ. So that, finally, so far as I have been able to form an opinion, it possesses no great value in the diagnosis of cancer.

DIAGNOSIS.—We have then in cancer of the uterus, a disease chronic in its duration, developed under the influence of causes entirely unknown, affecting, in a majority of instances, those who have passed the middle period of life. At one time, commencing with symptoms of slight uterine irritation; at other times, sudden and violent in its onset, accompanied by pain in the sacrum, pelvis, groins, and lower extremities, remittent in its character, commonly dull and burning, or marked by a sensation of weight or pressure—sometimes severe and lancinating. Early and commonly severe, or trifling and protracted hemorrhage from the uterus, sometimes preceded, sometimes followed by a leucorrhœal discharge, gradually assuming a sanious and fetid character. In many cases, in the advanced stage, incontinence of urine and fœces,—gradual emaciation and loss of strength, without febrile excitement; and, finally, death from exhaustion, hastened, often, by the supervention of a low or latent inflammation, especially of the lungs and intestines. And as the cause of these symptoms, we find the uterus and the tissues in its neighbourhood, more or less completely disorganized and destroyed.

With this history of a formidable and fatal disease before him, the practitioner might indeed suspect the perilous condition of his patient even while yet far removed from immediate danger. But it appears to me a fact of great importance that many of the organic diseases of the uterus, some of which are free from danger, or, at least, curable if proper remedies be used, resemble each other so nearly in their rational signs, as to leave great uncertainty in their diagnosis, if these alone are relied upon. This remark is not only applicable to the early stages of their progress, but, also, to a certain extent, to their more advanced developement. In proof of this I may mention, that within my own experience, two cases of cancer of the uterus, both of which terminated fatally within two months afterwards, were falsely regarded as trifling affections which excite no alarm, and hardly interfere with the enjoyment of health; being in one case called leucorrhœa, in the other prolapsus uteri. There appears to be, in truth, but one way of arriving at safe conclusions in these cases, and that is by an early and careful study of the *physical signs* of uterine disease, by means of the *touch* and the *speculum.*

If we examine the uterus during the early stage of cancer by the touch, we find the neck of the organ, which is the principal seat of disease, but slightly, or not at all, increased in size, hardly sensible to pressure, but very firm and resistant. In many cases, the portion surrounding the os tincæ is irregular or bosselated. In other cases where the body is enlarged, the uterus has lost its natural mobility, or has even become fixed in a situation rather low down in the vagina. Examined by the speculum, the neck appears much paler than the surrounding parts; sometimes, when the cancerous transformation is complete, of a dead-white colour. It is this change in colour, accompanied by an unnatural firmness and insensibility to the touch, that constitute the leading indications in the early diagnosis of cancer of the uterus. The bosselated condition about the os tincæ is a less important indication, being, as I think, not peculiar to, although more marked in this disease. I mention this more particularly because this condition is commonly thought to be of more importance than it really deserves. I remember that several years ago, a distinguished practitioner of this city, whose opinion was requested by a patient of mine, made it a principal point in his diagnosis, and in that particular case he was right. But I am satisfied that in other cases it might have led to a wrong opinion, inasmuch, as sufficient dissection has convinced me, that the cancerous deposit is infiltrated in an uniform manner into the tissue of the organ, and that this bosselated condition exists, although in a less marked degree, about the mouth of every uterus that has borne many children. Indeed, every one knows that the parts about the os tincæ are more or less lacerated during labour, and that the cicatrices which form afterwards, are marked by distinct depressions, giving to the part an irregular feel, which, when infiltration has taken place from some foreign deposit, or even when simple hypertrophy of the tissues occurs, becomes more marked and sensible.

In the advanced stage of the cancerous deposit, it is commonly sufficient to trust to the touch in the physical diagnosis. The finger passed up to the uterus finds the neck partially or even totally destroyed, it penetrates readily into the cavity of the organ, and is plunged into a pultaceous mass without form, being bathed, when withdrawn, with a sanious fluid mixed, perhaps, with small portions of the softened cancerous deposit, and revealing the fetid odour that is peculiar to this stage of the disease. It is more safe, also, in such cases, to abstain from the use of the speculum, when the infiltration of the cancerous deposit into the surrounding tissues has probably laid the foundation of fistulous openings into the bladder or rectum, so that the vagina might easily be lacerated, or when, by irritating the uterus itself, severe hemorrhage might be induced. Still, in cases involved in any doubt, it ought certainly to be introduced, but with great care.

It will hardly be possible, I think, to confound the early stage of cancer of the uterus with those chronic inflammatory diseases of the organ described in my former essay. These latter diseases are simply local inflammations, occurring commonly early in life, during the period of the greatest activity of the sexual organs, and marked by the usual signs of this morbid condition, viz. increased heat, redness, sensibility, and developement of the organ, especially of the neck, accompanied by a purulent discharge from the os tincæ, indications of disease entirely distinct from those of cancer, which in its early stage presents no signs of inflammation.

There are two other forms of organic disease of the uterus which may be much more readily confounded with cancer, inasmuch as they commonly occur at the same period of life, and are accompanied by rational symptoms somewhat analogous, especially by severe and repeated hemorrhage leading to the gradual exhaustion of the vital powers. These are uterine polypi and fibrous tumours developed in the substance or cavity of the organ; forms of disease usually described as distinct, yet, for all practical purposes, more properly united. I hope, on some future occasion, to offer to the attention of the Society, some observations on this form of disease, which is much more rarely met with than cancer, and shall therefore limit myself now to a general remark on the diagnosis. The principal point to remember is this; that tumours developed in the substance or the cavity of the uterus, impose upon it the same conditions observed in pregnancy. The organ becomes greatly hypertrophied, the neck becomes shorter and softer, the os tincæ opens so as to admit the extremity of the finger, yet continues perfectly free from all signs of disorganization—circumstances all remote from those we notice in cancer.

But we can often go beyond this in ascertaining the pathological condition of the organ; the finger, introduced into the cavity of the uterus, may discover the tumour, which becomes more and more easily recognised from its tendency to be expelled into the vagina. An examination, *per rectum*, will, also, sometimes greatly aid us when the tumour is situated in the posterior portion of the substance of the uterus. It should be remembered also, that dissection has established the fact that in cancer the uterus is not very much increased in size, seldom attaining to more than two or three times its natural dimensions, entirely contrary to what is frequently noticed in the case of fibrous tumours, where the uterus acquires a great developement. The second case related in this essay, where a tumour equal to the uterus at the fifth month of pregnancy, was discovered in the hypogastric region, might appear as an exception to this statement. Yet, on examination after death, the uterus was found but twice its natural size, the tumour being formed principally, by the infiltration of the cancerous deposit into the tissues of the pelvis.

TREATMENT. A great variety of internal remedies have been recommended in the treatment of cancer of the uterus, all of which, after enjoying a certain celebrity, have fallen into the disuse they merit. No one acquainted with the true pathology of the disease, can expect to cure it by such means. It is indeed doubtful, how far any means we can employ can retard its progress towards a fatal termination. This complete failure has led to the adoption of a surgical treatment, to remove by an operation the parts affected; but this method, like every other, after enjoying a temporary reputation, has been generally abandoned. The amputation of the neck of the uterus in cancer, was first brought to the notice of the profession by Osiander, a German surgeon, about the commencement of the present century. Dupuytren, who was at that time just commencing his great reputation, eagerly seized upon the idea and performed the operation in numerous instances, until, after a full trial, he abandoned it as entirely useless. Lisfranc, who adopted it at a later period, has given to the profession the results of his experience, which, could they be relied upon, would establish beyond a doubt, the great importance of the operation. This surgeon, a candidate for the place in the Academy of Sciences, left vacant by the death of Dupuytren, addressed to this body a memoir on the amputation of the neck of the uterus, which concludes in this manner: "I ought not to terminate this memoir without announcing to the Academy that, of ninety-nine women on whom I performed this operation, eighty-four were cured."* But unfortunately this great success has been contradicted, and, that too, by an individual who certainly possessed the means of arriving at the truth, having been for three years the principal prosector to M. Lisfranc, and assisting him in his operations during that period. "I have never, says M. Pauly,* seen the amputation of the neck of the uterus successful when there was cancer," and then he goes on with the history of fourteen cases in which he assisted M. Lisfranc. In support of this side of the question, I may adduce the practice of the other Parisian surgeons, who appear, without hardly an exception, to have abandoned the operation.

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* Memoir sur l'Amputation du col de l'Uterus, par M. Lisfranc, lu à l' Academie des Sciences, 2 Juin, 1834.

Again, others who have adopted the same principle, but another method, have recommended the destruction of the diseased portion of the organ by cauterization. There is in the work of Mme. Boivin and Professor Dugés, a remarkable case of cancer treated in this way—remarkable for the great destruction of the organ without dangerous consequences, and equally so, for the courage and constancy displayed by the patient in submitting to so severe and long continued a treatment, she having been cauterized twenty-eight times during eight months. The patient, it is stated, *nearly* recovered. No one, I think, who had read attentively the case, would dare incur the risk of a fatal peritonitis, or expect to find a patient so strongly attached to life as to submit to the issue, on the supposition even, that the chances of cure were considerable. But long before I had read the refutation of M. Lisfranc's success by M. Pauly, I was strongly inclined to the belief that nothing of this kind, the removal of the neck of the uterus by the knife or the cautery, could succeed; because, in mild cases even, the body of the organ had begun to present signs of the cancerous deposit, a fact revealed by dissection; and because, the disease, so far as its early history could confirm the fact, appeared entirely independent of any local cause. Thus, the removal of it in one part, would soon be followed by its developement in another portion of the uterus, or in some new organ.

Indeed, nothing can be more clear, I think, than the course to be pursued in the treatment of these unfortunate cases. As soon as the disease is fully recognised, our only indication is to moderate the suffering from a disease, perhaps, the most excruciatingly painful and disgusting, to which the female sex can be exposed.

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* Maladies de l'Uterus d'apres les Leçons Cliniques de M. Lisfranc, par H. Pauly. Paris, 1836.

The paroxysms of pain, the tendency to hemorrhage can frequently be checked by keeping the patient in a recumbent position. Emollient injections into the vagina, repeated frequently, will aid in producing the same effect. In the last stage of the disease, when the discharge from the vagina has become fetid, we shall gain the patient much comfort by the use of detergent injections of soap and warm water, followed by a weak solution of the chloride of soda. Care should be taken in every case where injections into the vagina are used, first, that the hips be so raised that the plane of the vagina should incline downwards, and backwards; secondly, that the end of the syringe pipe should not come rudely in contact with the diseased organ; and, finally, that the injection should be thrown in with great slowness. In addition to these means of relieving irritation, nothing is so well calculated to relieve a violent paroxysm of pain, as an opiate injection into the rectum, a mode of administering opium which is much more efficacious, in such cases, than when taken by the mouth. Besides, it does not disorder the stomach, an accident extremely apt to occur in the progress of this disease. This tendency to gastric derangement, though not peculiar to cancer, is yet frequently a symptom requiring attention, inasmuch as when nausea and vomiting become once fairly established, they are checked with difficulty, and add much to the distress of the patient. A mild, farinaceous diet, carefully regulated, will check this tendency. Finally, the low inflammatory complications that accompany the close of the disease, being frequently latent, escape the knowledge of the physician until dissection reveals their existence.

ART. V. *Observations on Morbus Coxarius.* By JOHN G. ADAMS, M. D. (Read before the N. Y. Medical and Surgical Society, January 27, 1838.)

DISEASES of the joints, considered as a distinct branch of pathology, have not, until within a comparatively recent period, received that share of attention, which their frequent occurrence, and serious character demanded. The cause of this neglect is to be found in the vague opinions which formerly prevailed respecting this class of diseases, the older surgeons applying the same terms, without discrimination, to affections which are now known to be entirely different in their character; and the sweeping denominations of white swelling, and scrofulous joints, comprised nearly all the morbid changes to which the joints are liable. Modern pathology has thrown great light on this important subject; it has been the basis of a more scientific classification and of accurate diagnosis; and although it is to be regretted, that the extension of our pathological knowledge, is not always followed by an improved system of therapeutics, yet in this class of diseases, our treatment is more philosophical, and certainly, more successful, than that of our predecessors. The labours of De Haen, Petit, Ford and Crowther, Brodie, Scott, and Buchanan, and of our fellow-countryman, the late Dr. Physick, have, by improved modes of treatment, and the prevention of unnecessary suffering, conferred a lasting benefit on mankind. And, although some of these diseases proceed to a fatal termination, in spite of every means employed, yet, the majority are capable of being relieved or completely cured.

The *anatomy* of the joints is simple and well understood: enclosed in a common capsule, we find bones, cartilages, ligaments, synovial membrane, and synovial glands, parts distinct from each other, in structure, functions, and the diseases to which they are liable. Sir Benjamin Brodie, whose attention has long been directed to the study of these diseases, was the first to establish correct principles of diagnosis; and his patient investigations of these lesions in every stage of their progress, have rendered his treatise of the highest authority on this subject.

His labours have demonstrated, that disease generally commences in, and is at first confined to, one of the structures composing the joint: it may affect this structure only, without involving other parts, as in simple inflammation of the synovial membrane, or it may extend itself, and involve all the constituent parts of the joint, as in ulceration of the cartilages or caries of the bones. Inflammation of the synovial membrane appears to be the most common form of disease; Mr. Brodie never found the ligaments, with the exception of the capsular, *primarily* affected. The joints of the elbow, knee, and ankle, are from their superficial situation, most liable to suffer from accidents, exposure to cold, &c., while those more deeply seated, as the shoulder and hip, are liable to ulceration of the cartilages, or affections of the bones.

My esteemed friend and preceptor, Dr. Alex. H. Stevens, in a clinical lecture on the pathology of diseased joints, remarked: that a diseased joint was found in one of four different conditions; 1st, either in a state of *inflammation*, simple or specific; or, 2dly, in a state of *stiffness*, the result of previous inflammation, or accompanied with it; or, 3dly, in a *neuralgic condition*, with or without inflammation, and the diagnosis of which state is, that the pain is in paroxysms and very severe, depending on the state of the mind, or that of the digestive organs; or, 4thly, where there is some *organic change* in the state of the joint as in luxation, caries, &c. According to Scott, a late writer, disease of the synovial membrane is most common in middle life, as is also ulceration of the cartilages: disease of the cancellated extremities of the bones, most common in children. From among these various forms of disease, I have selected that affecting the hip joint, and commonly denominated morbus coxarius, as the subject of the present essay. It presents many interesting points for our consideration; the joint is of large size, and, from its situation, if the ordinary means for arresting the disease are unsuccessful, we must rely on the natural vigour of the constitution to sustain the patient through the painful and tedious process of suppuration. In disease of the knee, and other articulations, we may amputate the member, and so get rid of the evil; in the hip this resource is beyond our power.

A number of cases of this disease have come under my observation within a few years; my attention was first directed to its study from having witnessed its ravages in the person of a near relative, who fell a victim, after ten years of suffering. I do not pretend to offer any thing on this subject that will charm by its novelty, yet hope, by giving the results of some experience and observation, not to occupy your time, altogether, without advantage.

This disease was known to the ancients; Hippocrates speaks of it in his Aphorisms, and recommends the treatment by counter irritation; it is also noticed by Celsus, Bœrhaave, and most of the old writers.

It occurs at all *ages*, and spares neither sex nor condition in life; it is most frequently met with in children, from infancy up to fourteen years of age; of sixty-eight subjects of this disease, Mr. Brodie found that fifty-six were under the age of thirty; the youngest being an infant of about twelve months, the oldest, a woman of sixty.

Of the cases which I have observed, the eldest was of the age of twenty-two years, and from six to twelve years I have found to be the average period. The children of the poor do not seem more liable to this disease than those of the higher classes; this is contrary to what we should expect, as the disease is regarded by many writers as purely scrofulous, and we know the tendency of the habits and mode of life of the poorer classes to produce or develope this diathesis.

With regard to the *sex*, it would appear to be much more frequently met with in males than in females; where the disease originates from accidents, as falls or blows, males, are by far the most exposed, especially in the early periods of life. Of fifty cases which I have seen or had account of, forty-one were boys, and only nine girls; it is but fair to state, however, that many of my cases have been inmates of the hospital, where the proportion of female patients admitted, is very small. I do not find that any author alludes to this point.

The left hip appears to be more frequently diseased than the right. Of twenty-three cases recorded, fourteen were on the left side, nine on the right. Authors are silent as regards this point also.

Symptoms.—The early symptoms are of an extremely insidious character, the disease generally existing some time before the patient perceives any deviation from a healthy state of the part. So frequently is this the case, that patients often show great disposition to exercise and walk about for months, and in some cases, for years, after the disease is formed. It not unfrequently happens that the surgeon is not consulted until that aggravation of all the symptoms occurs, which characterizes commencing suppuration.

The earliest symptom is a slight weakness of the limb, by which the patient is prevented from bearing all his weight upon it, and a slight limping is the consequence. This is frequently attributed by parents, to indolence or an awkward habit, and is not considered of sufficient importance to require the advice of a physician. The joint will be stiff in the morning, on getting out of bed, or after sitting still for some time; but becomes supple as it is exercised. This is accounted for by the friction of the head of the bone against the soft lymph that is deposited in the cavity of the joint during a state of rest, causing it to be partially absorbed. The stiffness returns towards evening, when the patients are always languid and fatigued. If the affected limb be examined at this early period, it will be found diminished in circumference, particularly the thigh and calf of the leg: this is undoubtedly owing to the same cause, which, at a later period, produces flattening of the nates, viz. want of exercise of the muscles, from the patient throwing most of his weight on the sound limb. If we observe the patient as he ascends a staircase, he will not advance one foot before the other alternately, in the usual manner, but will ascend by the well limb, lifting the other up to the same level. Examine the patient as he stands up before you, and you will notice that he does not stand square on both feet, nor will he, when required, stamp on the ground with the foot of the diseased side. The thigh and leg will be thrown out a little in advance of the other limb, and sometimes, even at this early period, the patient will stand with his toes touching the ground and his heel raised.

Pain is a symptom appearing very early, frequently at the same time with the weakness of the limb, and is always a prominent symptom. It is at first slight, and occurs in paroxysms at longer or shorter intervals, resembling the pain of rheumatism, and like it, shifts from place to place. The pain in the *knee* is most commonly complained of, and according to my observation, at the inner condyle of the femur; is most severe at night when the patient becomes warm in bed, in this respect also, resembling the pain of rheumatism; the sleep is disturbed by painful twitchings of the affected member. There will be also pain at the seat of disease in the hip, but it is not generally so violent or constant as that in the knee, which sometimes continues through the whole course of the disease. The ankle is occasionally the seat of pain, rarely however, in comparison with the knee and hip. Not unfrequently the pain alternates, leaving one joint and attacking the other; patients rarely complain of both at the same time. Pain in the hip is aggravated by motion, while the knee may be freely handled and turned in every direction without causing uneasiness. There is always some tenderness about the hip, particularly if pressure be made at its most superficial parts, as the groin, or behind the trochanter major. Direct pressure on the trochanter from without inwards, always increases pain, by bringing the diseased surfaces forcibly in contact. If, when the patient is lying in bed, a slight blow be struck on the sole of the foot, the patient will flinch and complain of pain.

ENLARGEMENT OF THE LYMPHATIC GLANDS of the groin is common at this period, owing to the irritation communicated from the seat of disease to the absorbent vessels. This is not, however, a constant symptom. An *alteration in the length of the limb* is a symptom characteristic of this stage of the disease; the limb appears lengthened, sometimes to the extent of two inches. When the patient stands erect, the knees are farther separated than natural, which gives him, when walking, a straddling gait. It is a matter of dispute among writers, whether the elongation be apparent or real. Mr. John Bell in his notice of this disease, attributes the lengthening of the limb to a swelling of the head of the femur, with a thickening of the periosteum and articular cartilages of both femur and acetabulum. It would seem that it is only in this way, that we can account for an actual lengthening of the limb; for the occurrence of suppuration within the acetabulum, or of depositions of coagulable lymph, would rather favour the shortening. Mr. Brodie considers the elongation as only apparent, and owing to a distortion of the pelvis by which the ilium of the affected side bocomes lower than the other. This is caused by the habit the patient acquires of bearing his weight on the sound limb, by which it is kept in a state of forced extension; as before observed, when standing erect, the diseased limb is thrown forward, the knee more or less bent, and the patient resting with his toes on the ground, preserves his equilibrium. This position causes the os innominatum of the affected side to be lower than the other, and necessarily produces a lateral distortion of the spine in the opposite direction. In order that the head may be preserved in the median line of the body, two other curvatures are induced, so that the spine, viewed posteriorly, resembles in shape the letter S; the first curvature taking place in the lumbar, the second in the dorsal, and the last in the cervical vertebræ: as a necessary consequence one shoulder will be higher than the other. Mr. Samuel Cooper accounts for the elongation, by the destruction of the cartilage and ligaments forming the lower and inner part of the acetabulum. M. Boyer attributes the elongation to the swelling of the synovial glands and articular cartilages, and observes that it is greatest when the head of the bone is about to be luxated. In this case, the distance between the trochanter major and the anterior superior spinous process of the ilium will be greater than natural; this would not happen if the elongation proceeded from disease of the ileo-sacral articulation, the trochanter in the latter case retaining its relative position.

Observation has established that the elongation commences at the same time with the pain in the knee, and that both continue for the same period, the latter generally ceasing as soon as the limb shortens or resumes its natural length.

After the disease has continued for some time and the patient has been prevented from taking exercise, the *nates on the affected side* become *flattened and wasted*, are soft and flabby, and lose their natural convexity. This change occurs in the glutæi muscles, particularly the glutæus magnus, which forms the contour of the hip; in accordance with a law of the animal economy, that parts which are not called into their due share of natural action, become wasted and enfeebled. This change does not occur in the earliest stages, and is not strictly pathognomonic, since it is common to other diseases which prevent the exercise of the muscles of the hip, as in cases of psoas abscess, or paralysis from vertebral caries. The *four* symptoms above described, characterize the *first stage* of the disease. Its duration varies with the age of the patient and the violence of the symptoms; it is shortest in children, since in them, ulceration of the cartilages or caries of the bones is more rapid in its progress. This is owing to the greater vascularity of the parts affected; in young subjects, also, in part to the greater shallowness of the acetabulum. M. Boyer speaks of having seen children in whom the femur was luxated in the course of two months: also of two adult patients, in whom the pain was excessive, and who passed through the first stage of the disease in the course of an idiopathic fever.

This is not the ordinary course; the symptoms are generally tedious in their progress; there is a want of uniformity in this respect betweeen cases otherwise similar; as a general rule, this period will be shorter as the pain and irritation are more severe. The symptoms do not continue or proceed with equal intensity, and are much alleviated at particular times, without any apparent cause. What is remarkable, the unfavourable appearances frequently alter and are suspended for a considerable period, insomuch as to be seemingly removed; but when they return, it is with increased violence.

The disease, if not arrested before this period, now, if not earlier, begins to show its effects on the constitution; the patient becomes pale and emaciated; is averse to exercise; the appetite is impaired; in short, all these symptoms now manifest themselves, resulting from long continued irritation, loss of rest, and want of exercise.

The aggravation of all the symptoms, the increasing lameness, the pain becoming more acute and confined to the seat of disease, prostration of strength and irritative fever, indicate the approach of the *second or suppurative stage.*

The swelling and increased tenderness around the joint, the skin becoming tense and painful; the occurrence of rigours, with a quick pulse and furred tongue, leave no doubt as to the commencing suppuration. Mr. Samuel Cooper remarks, "that the symptoms vary in different cases, as there is acute or chronic inflammation present. In acute inflammation, the surrounding parts become tense, and extremely painful; the skin reddish, and inflammatory fever prevails. When the severity of the pain abates, a swelling occurs in the vicinity of the joint, and pointing quickly follows. In this stage, startings and catchings during sleep are among the most certain signs of the formation of matter."

The symptom most characteristic of this stage, is a *shortening of the limb.* This may be caused either by the head of the bone being pushed out of the acetabulum, by the state of the parts within the joint, or by the destruction of the bony margin of the acetabulum or of the head of the femur; in either case there is nothing to resist the action of the muscles in shortening the limb. The first kind of displacement constitutes the luxation spontanée, or consecutive, of the French writers, and closely resembles the primitive luxation upwards and outwards, produced by accidents; but a slight examination, and the previous history of the case will readily enable the practitioner to distinguish between them. Its direction is usually upwards and outwards, the head of the bone resting on the dorsum ilii, under the glutæus minimus; knee and foot are turned inwards; the limb is shortened from one and a half to two and a half inches. The position of the knee may vary according to the state of the parts; if the head and neck of the femur are destroyed, it will be turned outwards; luxation does not always occur on the dorsum ilii; the head of the bone may pass into the foramen ovale or ischiatic notch. Boyer mentions one case of the former, and Mr. Earle an instance of the latter; they are extremely rare. Depositions of pus, or of coagulable lymph within the joint, swelling of the synovial glands, or a slight degree of violence to the part, are the principal causes of this luxation. It seldom happens before the occurrence of suppuration, though a case is recorded in which luxation took place, followed by anchylosis, without the formation of abscesses. With regard to the second cause of the shortening, viz. the enlargement of the acetabulum and the diminution of the head of the bone from absorption or caries, I am inclined to the opinion, that it is by far the most common. Of twenty specimens of this disease in the museum of the college of surgeons of Edinburgh, there was but one example of the consecutive luxation; and in the catalogue of Guy's Hospital Museum published in 1829, there is not a single specimen of this variety to be found. Baron Larrey is of opinion, that the bone is never luxated, but that the shortening is always owing to the cause last mentioned. On one of my visits to his wards at the Hôpital des Invalides, in company with Dr. Mott, the Baron pointed out to us two cases of this disease under treatment by his favourite remedy, the moxa. After some observations on his peculiar views of the nature of the morbid lesions, occasioned by this malady, he invited us into his cabinet, and exhibited a fine dried preparation of diseased hip in the adult, in which the limb could be lengthened or shortened two inches, without the head of the femur passing out of the acetabulum. This was the only specimen he happened to possess at the time, but stated that his experience in this disease had been very extensive, and that he had never met with luxation.

It is not a little remarkable, that Boyer and the majority of French writers should describe this disease as the "luxation spontanèe du femur," when the luxation seems by no means essential, and appears rather as an accidental symptom.

Abscesses usually form around the joint; a defined tumour appears, most commonly, on the anterior part of the thigh over the vastus externus muscle; sometimes in the groin below Poupart's ligament on the inner side of the vessels; at other times, near the ischiatic notch, or midway down the thigh. The dense structure of the fascia lata retards the pointing of the abscess, and aggravates the suffering, which is always increased at this period. After a longer or shorter interval, the abscess bursts, and discharges a yellowish bloody sanies, or a thin fluid mixed with shreds resembling curd. Hectic fever now shows itself; the night sweats exhaust the strength, and if diarrhœa sets in, there is but little ground for hope. The danger from suppuration, varies with the period of life; adults rarely recover. Mr. Brodie asserts that he never knew an instance of an adult recovering after abscesses had formed; children frequently recover, not, however, without anchylosis, or the functions of the joint being impaired. The abscesses remain open for a long time, the discharge varying in quantity at different times; one will heal and another break out in an adjacent part; or the abscesses degenerate into sinuses with fistulous openings communicating with the cavity of the joint: without any assignable cause, the suppuration will recur at periodical intervals. There is a patient now in the alms-house, who has been suffering from this disease for years; as often as once in six months, an abscess forms, and he is brought to the verge of the grave by exhaustion; his strength then rallies, and in the interval he is able to attend to his business, that of a tailor.

TERMINATIONS.—The favourable terminations are either by anchylosis, or the formation of a new joint by the pressure of the head of the bone on the dorsum ilii.

In the former case, the inflammation subsides, the discharge gradually ceases, the ulcerated surfaces of the bones granulate, and bony matter is deposited; the femur unites with the os innominatum at an angle more or less acute, depending on the position of the patient during the process, usually at a point midway between flexion and extension; the union becomes consolidated after a time, and the patient is able to bear his weight upon it, the limb being always shortened; where a new joint is formed, there will be some degree of motion; this termination is rare. I saw a fine illustration of it in a specimen from Dr. Cheeseman's collection, in which the newly formed acetabulum is precisely of the same dimensions with the original, and separated from it by a bony margin. The history of the case was not known. When the disease is arrested in its early stages, the functions of the joint are not impaired; in the latter stages, death is too frequently the only relief from suffering.

PATHOLOGY AND MORBID ANATOMY.—The lesions vary with the nature and stage of the disease. In the worst cases, there is disorganization of all the structures constituting the articulation, and the soft parts are blended into one confused mass. The acetabulum is always more affected by caries than the femur, its bony margin being destroyed and presenting a flat surface; or its diameters are enlarged, and it is rendered deeper and wider. The caries will often extend through the bottom of the acetabulum, and the matter thus make its way into the pelvic cavity. Even the head of the femur may pass through the opening; I have seen one instance of this kind occurring some months after a severe injury. From the greater extent of the caries in the acetabulum than in the femur, some writers suppose that the disease may originate in the acetabulum. The head of the femur is found diminished in size, its cartilage absorbed, and its surface carious: a change also takes place in the cervix femoris, which becomes shortened, and the trochanter major approximated to the head of the bone: its direction, instead of inclining upwards as in the natural state, becomes horizontal: when anchylosis occurs there is usually an irregular deposit of bony matter around the acetabulum and os femoris which becomes very solid, when it has existed for any length of time. Dr. Isaac Wood of this city, possesses a specimen in which the bones are soldered together by their articulating surfaces, leaving the external surfaces as smooth as in the normal condition. Opportunities have occurred of examining the disease in its early stages; this happened twice in the practice of Mr. Ford; and from these cases he considers himself warranted in the assertion, that considerable caries may exist before it is indicated by external symptoms. In the first case, "the cavity of the joint contained a small quantity of pus, the head of the femur was slightly inflamed, the capsular ligament thickened, the round ligament attached to the acetabulum in a healthy condition; the cartilage was in one place eroded, with a small aperture communicating with the ischium on one side, and os pubis on the other. In the second case, there was no appearance of inflammation, no tension or external swelling, the acetabulum was carious, its cartilages eroded, the head and part of the neck of the femur had crumbled away."

Mr. Brodie met with a case exemplifying both stages of this disease. "The disease had long existed in the left hip, and the consequent hectic fever had destroyed the patient. On opening the joint the usual appearances were found; destruction of the cartilages and round ligament, caries of the bones, with luxation of the femur. The patient had never complained of his right hip, and no disease was suspected; on accidentally cutting into it, the cartilage of the femur was found absorbed for one-third of its extent, and the surface of the exposed bone covered by a thin layer of coagulable lymph. The soft parts were in a perfectly natural state, and the bones of their ordinary texture and hardness."

In every stage, the cartilages are found ulcerated before the bones or soft parts are at all involved. This has led to a new view of the pathology of this disease, which regards ulceration of the cartilages as the primary lesion, and the caries and other symptoms as secondary affections. Mr. Brodie admits that in some cases the disease commences in the bones, but that this variety is confined to scrofulous subjects. In this case, "the bones, preternaturally vascular, contain less earthy matter, and a cheesy substance is deposited in their cancelli; the cartilage ulcerates in spots, commencing on the surface connected with the bone." According to the best observations, the following is the order in which the lesions occur: ulceration takes place in the cartilages, commencing in that of the acetabulum, sometimes in both cartilages at the same time. The ulceration extends to the bones, which become carious, the head of the femur diminishes, the acetabulum is rendered deeper and wider. An abcess forms in the joint, which makes its way through the synovial membrane and capsule into the thigh, nates, or cavity of the pelvis. In consequence of the abscess, the synovial membrane and capsular ligament become inflamed and thickened, the muscles altered in structure, sinuses form in various parts, and at last, all the soft parts are blended together like the parietes of an ordinary abscess. Some writers of high authority, deny the possibility of a primary disease of the cartilages. They regard them as possessing so little vitality, as to be incapable of inflammation, insensible to the action of irritating substances, and only susceptible of ulceration or exfoliation in the affection of the synovial membrane covering them, or of the bones underneath them. Mr. Velpeau says, "they can never be the primitive seat of disease, never inflame or ulcerate. The ulcerations with which Mr. Brodie has endowed them, belong to the bones and correspond to a softened state or extensive caries; when, in consequence of a contusion or other cause, a point of the osseous surface inflames or alters, so that a morbid product results, the point of the cartilage corresponding, is perforated from within and outwards. If the bone becomes vascular at this point, the cartilage peels off, becomes thin, and disappears insensibly, but does not become diseased; the granulations which are sometimes seen on the whole extent of an articulation are foreign to it, and belong to the bones."

Mr. Coulson is of the opinion that the synovial membrane, and not the cartilage, is often primarily diseased; he infers this from one of the earliest symptoms; a fulness of the groin, depending, as he supposes, upon the increased secretion into the joint similar to what occurs in synovitis of the knee. Schelius of Heidelburg, a late writer on this subject, coincides with Mr. Brodie, and the weight of authority, at the present day, is in accordance with his views.

CAUSES.—Contusions, especially falls on the trochanter, jumping from a height, lying on the damp ground, exposure to cold, are among the exciting causes of this disease; frequently it will be impossible to account for its appearance. Parents, often attribute its origin to a fall or a false step, which the patient has made a short time before the symptoms manifested themselves. This is a consequence, rather than a cause, and is owing to the weakness of the limb, causing the patient to stumble. A scrofulous habit is a frequent predisposing cause, and was considered by the older writers as the sole cause; hence they termed the disease scrofulous hip, or scrofulous caries of the hip joint; as already observed, this produces one form of the disease, most common in young subjects. Gout, rheumatism, smallpox, and measles are also enumerated as causes.

DIAGNOSIS.—In the early stages, and it is of the first importance that the disease be detected early, it requires careful attention to discriminate between the symptoms peculiar to it and those common to it with other diseases. The diseases most liable to be confounded with it, are, paralysis of the lower extremity from caries of the vertebræ, psoas abscess, chronic inflammation of the soft parts around the joint, congenital luxation, and sciatic neuralgia. In *paralysis* from vertebral caries, both limbs are generally affected; there is no pain in the knee, or lengthening of the limb. The nates become wasted from inaction. On examining the spine, there will be tenderness over some of the spinous processes, or a projection; patients will also complain of a dull pain in the back.

In PSOAS ABSCESS the dense fasciæ of the muscles of the back preventing the pus from making its way to the nearest surface, it takes the course of the psoas muscle, and shows itself below the groin, or immediately under Poupart's ligament. The thigh will be bent forwards, owing to the contracted state of the muscle from irritation at its origin; this gives a flattened appearance to the nates of the affected side. There is, however, no pain in the knee, the motion of the joint is free and unimpaired, and there is one symptom peculiar to this affection, a sense of weakness in the loins, at the origin of the psoas, and tenderness of this region upon pressure. In the *congenital luxation*, the thigh is shortened from a vicious conformation, the limb can be lengthened by gentle traction, without pain, but it shortens as soon as the traction is discontinued. The buttocks are natural, the movements of the thigh free, and the foot rests firmly on the ground.

In *chronic inflammation* of the soft parts around the hip, there is no tumefaction of the nates, the pain is less severe, and confined to the diseased parts, not much aggravated by motion, nor relieved by rest.

Acute inflammation of the joint from falls on the trochanter, may be distinguished by the history of the case; the pain is very acute, and occurs soon after the accident, the patient is unable to bear any weight on the limb, the slightest motion occasions great suffering. The inflammation may, however, terminate in ulceration and caries, resembling the idiopathic disease, except in its early stages.

In *sciatic neuralgia* the pain follows the course of the sciatic nerve; there is nothing anormal in the position of the trochanter, nor in the length of the limb.

Rheumatic inflammation of the hip, may be distinguished by the suddenness of the attack, the severity of the pain, which is confined to the joint, the sympathetic fever, and the inability of motion in the part.

After the spontaneous luxation has occurred, one would suppose it hardly possible to confound it with that resulting from accident, yet this does occasionally happen, particularly in the practice of *professed bonesetters*, as they are denominated: I have heard of two instances in this city, in which pulleys have been applied, and the unfortunate patients subjected to the torture of violent extension, through the culpable ignorance of the attending physician.

Prognosis.—It will be favourable if the patient is of good constitution, and the disease is seen in its early stages; if suppuration has not taken place, there is a prospect of a permanent cure. Dr. Physick says: "that he has never failed, in one instance, to effect a cure in the early stage; but when suppuration had occured, he had never succeeded in restoring the use of the limb." If the suppuration be long continued, and the patient feeble, he will probably fall its victim. There are fewer fatal cases, in proportion, among children than adults. Where the disease has originated from external violence, the prognosis will be more favourable than in that from an internal cause.

Treatment.—The indications are few and simple: to diminish the inflammation, to prevent exercise of the joint, and to support the patient under the suppuration. If there be great tenderness on pressure with unnatural heat, cupping, leeches, or even a general bleeding, may be required; it is advisable to continue the local depletion, so long as these symptoms continue. No exercise of the joint should be permitted, absolute rest is indispensable; without it, our remedies will avail but little: the patient must be confined to bed, and not be allowed to leave it under any circumstances. As it has been shown that exercise of the limb always aggravates the symptoms, the necessity of preserving the limb in a state of perfect quietude is obvious. In some cases, rest will alone be sufficient to effect a cure. It must be admitted, that the patient's general health may suffer from want of exercise; but the danger from this source is infinitely less, than from the uninterrupted progress of the disease. If it be practicable for the patient to take passive exercise in the open air, in a horizontal position, as in a palanquin or sedan, it would greatly improve his health, as well as relieve the *ennui* of his condition. When the acute stage of inflammation has passed then counter irritation will be of service. This is used under various forms, as irritating ointments, blisters, setons, issues, moxa and other varieties of the actual cautery; as regards their comparative merits, blisters act more promptly, and are therefore better adapted to acute cases; the cautery acts through a greater thickness of parts, and is more applicable to chronic cases. Irritating ointments hold a middle rank between the two. The point selected for applying revulsion is the hollow behind the trochanter major. This is not so near the articulation, as a point on the anterior part of the thigh; but the situation of the vessels, precludes the application of such remedies at this part. Issues and setons are most commonly employed; they must be continued so long as any symptom of the disease remains, and it is prudent to persist in their use, for some time afterwards, to prevent its recurrence. When suppuration occurs, the abscess is not to be opened early: some surgeons of high reputation, are opposed to any interference with the efforts of nature; it is found that, generally, those cases do best in which this course is pursued. When the skin becomes very thin, and the abscess is fully matured, we shall shorten the patient's sufferings by giving exit to the matter. The strength is now to be supported by nourishing diet and tonics, if required. In cases connected with scrofula, iodine, in the form of Lugol's solution, may be given with advantage: its application externally in the form of ointment, is also recommended. If we have reason to expect the occurrence of anchylosis, the limb is to be retained in a position in which it will be of most service to the patient in walking, viz: in a state of demi-flexion. Different methods have been devised for preventing motion in the affected member; splints and bandages are sometimes used, but these cannot be well adjusted to the hip, and are of little use. The method recommended by Mr. Scott, consists in enveloping the joint in several layers of thick plaster, (lead, or soap-plaster,) the whole to be secured by a calico bandage. Dr. Physick contrived a hollow splint, carved so as to be well fitted to the limb; this answers the purpose exceedingly well, and will be spoken of more fully hereafter. The felt splint fits very accurately, but is objectionable on account of its being expensive. The most recent method is that adopted by Velpeau, viz: the starch bandage: the whole limb is to be enveloped in a bandage, from the foot upwards, in the usual way, with the spica for the groin; the whole is then thickly covered with starch, and the limb secured in a position midway between flexion and extension, until the bandages become firm. This fulfils the indication sufficiently well, and its cheapness renders it of universal application.

Dr. Wm. Harris of Philadelphia, recommends the use of Hagadorn's apparatus, modified by Dr. Gibson, as fulfilling the twofold indication of preventing motion of the limb, and of keeping up continuous extension, until ligamentous union, or anchylosis has taken place, thus preserving the length of the limb.*

The late Dr. Physick was very successful in his treatment of this disease: a summary of his peculiar method will form an appropriate conclusion to our observations.

"He confined the patient to bed, in a horizontal position, the bed to be a well stuffed mattress; he commenced the treatment with a mercurial purge. After the patient had been kept quiet for a few days, he then made a careful examination of the hip, and if he found it inflamed, swollen, and tender, prescribed leeches to the part, with a light, wholesome diet. He then commenced a course of steady purging, by the pulvis purgans, in doses sufficient to procure several copious evacuations daily. He considered the drain from the bowels and the irritation there set up, as superior to issues, setons, or other external remedies. Having pursued this plan for a few weeks, and accustomed the patient to the bed, he next applied a hollow splint of one half the diameter of the limb, extending from the middle of the thorax to the external malleolus; it is carved out so as to suit the irregularities of the thigh and leg, is accurately fitted to the limb, after being well padded, and is secured by rollers around the pelvis, thigh, and leg. When first applied, it occasions great uneasiness, and cannot be kept on for more than an hour. In the course of five or six days it may be worn permanently, and the limb will be uncomfortable without it. The time required for a cure will vary from six months to two years; the usual period is twelve months; the splint is to be worn constantly, and not taken off until some time after all the symptoms have subsided, when the exercise of the limb may be cautiously commenced."†

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* See Medical Examiner, No. 3, for 1839.

† A detailed account of this treatment may be found in the American Journal of Medical Sciences, No. 14.

ART. VI. *A case of Abstraction of the Uterus after Delivery.* Reported by JNO. H. GRISCOM, M.D.

THIS astounding case having created much excitement in New-York, and indeed wherever the newspapers have carried the report, (incorrect and incomplete in many particulars,) it is deemed proper that a detail of the circumstances attending it, should be correctly recorded. On the 7th of April, 1839, at the request of Ira B. Wheeler, Esq., coroner, I examined the body of Mrs. Cozzins, the wife of a respectable mechanic, No. 328 Madison-street, at the time absent from the city. I was assisted in the examination by Dr. S. C. Ellis, in the presence of Drs. Nichols, Lobstein, and Walters. Before the examination, we obtained the following history:—Mrs. C. was delivered of a healthy, living child, about one A. M., without any other assistance than her sister and a female friend, both married, and the former a mother. The cord was tied and cut *secundem artem;* but the placenta was retained beyond the usual time. Three hours having elapsed without its disengagement, the sister went for a physician and obtained the services of Septimus Hunter, who represented himself to be a physician, but was at the time a clerk in a drug store. Upon his arrival, he immediately addressed himself to the task of removing the placenta, the successive stages of which operation will be mentioned presently.

We were shown prior to the dissection, a mass of fleshy substance in a washbowl, which I at once recognised as a uterus; also, in another vessel, the placenta was shown us, which was entire, but without a vestige of the umbilical cord attached to it. The latter was subsequently discovered in a pail of dirty water.

On stripping the body, the abdomen was found very sunken. The usual incisions were made, and the following uncommon appearances were presented: 1st. A total absence of the uterus. 2d. The broad ligaments much torn and ragged, and partly deficient. One fallopian tube was absent, but both ovaria remained *in situ.* 3d. The upper extremity of the vagina was open and free, so that the hand introduced from without would pass directly into the cavity of the abdomen, and the intestines could be touched. The intestines were high up as left by the contracting uterus. 4th. A considerable quantity of extravasated blood was seen on each side near the ovaria, forming spots of ecchymosis beneath the membranes. No effused blood was seen, however, within the abdomen, except this. 5th. A laceration of the vagina, about an inch and-a-half in length, a short distance from its superior extremity.

By reverting to the uterus, we found the deficient parts attached to it, viz: one fallopian tube, entire; a portion of the broad ligaments, and about an inch of the upper end of the vagina, which had been divided by an even circle, though manifestly without the aid of any cutting instrument. The external surface of the uterus was about half denuded of its peritoneal coat, leaving the muscular fibres entirely bare. Its internal surface was smooth, and the part where the placenta had been attached very apparent, presenting a slight brown colour. The whole organ was about the size of a child's head at birth. Large quantities of coagula were about the body; the bedding was thoroughly soaked with blood, and a large puddle of it, of a bright red colour, covered the floor beneath the bed.

The examination of an intelligent female witness before the coroner's jury, developed the following facts: — Immediately after the *quasi* doctor arrived, he took hold of the cord, and making strong traction upon it, he completely inverted the uterus, the placenta still adhering; pulling still harder, he severed the cord from its attachment and gave it to the witness. He then took hold of the placenta, removed it, and laid it aside, saying there was more to come away still. He then grasped the uterus of the unfortunate patient, and by dint of "excessive" pulling, after about three quarters of an hour, (during which period he relaxed his efforts occasionally to rest and remove his coat, the miserable patient constantly uttering the most piercing and heart-rending cries, such as "you are tearing my heart out, &c.,) he succeeded in dragging the uterus from its attachments, and separated it from the body, holding it in his hands, and exhibiting it as a proof of his prowess and skill, saying that "he never had met with such an extraordinary case before." When asked what it was, he replied "either a polypus or a false conception." During this brutal operation, the groans of the suffering woman were at first strong and loud; these together with the force which the man was seen to use, excited the alarms of the attendants, who urged him to desist and allow other medical advice to be called; but with incredible hardihood he persevered, insisting that all was right, that she must endeavour to be patient, and that *he would be responsible for her life.* 'Towards the close of the performance, her cries became more and more faint, and at length entirely ceased. He thought she was endeavouring to support the pain with patience, and encouraged her in so doing by words. When he turned to look after her, and to feel her pulse, he found that she was dead.

It is due to the profession to say, that the performer of this horrible tragedy is not, *de jure*, a member of the profession, though he asserts that he has a *recommendation* from three surgeons of the British Navy, of his medical proficiency, and that he has had a large amount (three hundred cases) of obstetric practice. He appears to be about thirty-two or thirty-three years of age, and has been in this country two years.

Strange as it may appear, this is not the first occurrence of the kind. Three other cases have come to our knowledge, the history of one of which bears a very close resemblance to that of Hunter's. It occurred in the town of Pulaski, in the state of New-York, the deed having been performed by a man of advanced years, and who though a quack, had had many opportunities for experience. The details are succinctly given in the following communication addressed to Dr. Swett, by Mr. T. S. Markoe, an intelligent medical student, who was cognizant of all the facts at the time of their occurrence, and saw the preparation.

" *To Dr. J. A. Swett.*—The woman had had a perfectly natural and easy labour. The child was born and removed from the mother, but the placenta was retained. After waiting a certain time, the practitioner in attendance judged it necessary to pass in his hand in order to extract it. He did so, and as he thought, found the placenta attached very firmly near the mouth of the uterus. He then undertook to peal it off from its attachment but found the greatest difficulty in doing so, it was so closely adherent that repeated and long continued efforts were made without success. Supposing, however, that the life of his patient and his own professional reputation depended upon his succeeding, he redoubled his efforts until, as he himself said, he was exerting a degree of force which made him fearful for the consequences. During all this time the woman was screaming loudly, and exclaiming that he was killing her. Still thinking that he had the placenta, he persevered, until at last it yielded entirely, and he commenced to extract. The extraction was strongly resisted by something, and much exertion was still necessary to bring the mass down to the external parts. Labouring under the same fatal delusion, he succeeded by dint of main force in bringing it quite out from the body of the mother. "Judge of my surprise," says he, in the paper which he wrote in his defence, "when I found that I had the whole uterus in my hand." However, the mischief was done, and he thought all he could do, was to separate the few remaining attachments, which he did, by tearing them off, and put the whole out of sight as quick as possible. The girl to whom was allotted the office of disposing of it, seeing in the whole procedure something suspicious, fortunately preserved the specimen. The poor woman immediately after the performance of this barbarous operation, began to sink, and was soon in a dying condition. No hemorrhage ensued, but the shock to the nervous system was such that she expired in about two hours.

On examining the uterus, it was found about twice as large as a child's head at birth, containing within its cavity, the placenta *loose and unattached*. One of the ovaries had been brought away with the lacerated broad ligament; the broad ligament of the opposite side and the fallopian tube, were torn through quite near the uterus; the posterior surface of the uterus was rough and covered with cellular shreds and without a peritoneal coat; the peritoneum still covered the anterior and superior parts. The old man says that his mistake occurred in this way: the edges of the os tincæ being relaxed and protruding into the vagina, he mistook this protrusion for the edge of the placenta; passing his fingers into the *cul de sac* which the vagina the makes with the neck of the uterus, he perforated the coats of vagina supposing he was separating the placenta. His fingers were thus behind the uterus which he proceeded to tear from its connections. From inspection of the uterus, it is plain that he separated it from the peritoneum, over the whole posterior surface, and perforated this membrane at its upper part. Supposing then that he had detached the placenta, he extracted the uterus by main force, as above mentioned. The vagina was torn off very short."

Another case is mentioned by Bartholin. I have not seen the original report: the following concise notice of it is from James's Edition of Burns's Midwifery, 1823, vol. i. p. 522. "Bartholin relates a case, where the inverted womb was torn away, and found under the bed of the dead patient."

The last of these cases we find noticed in the Med. Chir. Rev. for April, 1836. As that Journal is accessible to most of the profession, we will give but a brief summary of the case, referring to the paper itself for the minutiæ. The woman, after a labour of 63 hours, gave birth, under the care of a midwife, to a sound child. The placenta followed whole in a quarter of an hour, expelled by a pain. She did well for about 36 hours, when the midwife was summoned hastily. "She ascertained the following particulars: the woman had risen during the night, and had gone into an adjoining room to make water; while there, she had, by her screams, alarmed her husband, who called in some of her neighbours; and upon entering the apartment, they found the woman seated on a stool, before the fire, with a vessel of warm water in front of her, and a large substance which they compared to a child's head and neck, lying between her thighs, supported by her hands." The midwife found her on the bed, pale from loss of blood, which had been excessive. "On examination, she discovered a hard substance lying on the bed, *loosely connected to the vagina by a shred of membrane only.* This substance she immediately recognised as the uterus, and lifting it gently, removed it without difficulty or effort."

Mr. Cooke, senior, a member of the profession, visited her soon after, and found her completely exhausted from the hemorrhage, but restless and agitated. Notwithstanding this extraordinary dismemberment, the woman entirely recovered her health, and became robust and active.

We are left totally in the dark with regard to the means by which the uterus became so nearly detached before the arrival of the midwife. It cannot be believed, that the patient herself could have used force enough to tear it nearly off; and the husband and friends would have certainly known whether any improper force had been applied by the midwife. Speculation, therefore, upon this deficient point in the report, would be useless.

The question was asked by members of the grand jury who indicted Hunter, whether such an operation must necessarily terminate fatally. It was answered affirmatively. This was before the case reported by Cooke came to my notice, which raised for awhile a doubt in my mind; but upon reflection, I continue of the same opinion. In the first two cases, and doubtless in the third, violence was used immediately after delivery, before the action of the uterus had subsided, and before the blood-vessels had in any degree returned to their usual dimensions. The sympathy between the uterus and the whole nervous system, if greater at one time than at another, must then be at its height, and the patent blood-vessels, if ruptured, must then pour forth blood with the greatest freedom.

In two days after delivery, the sympathetic connection of the uterus must in some measure have diminished, being transferred to the breasts, (which was the fact in Cooke's case, the child having nursed,) and the blood-vessels have contracted considerably, whence the loss of blood, though "excessive," having been arrested when the uterus was actually removed, was not sufficient to prevent a reaction. There are but two modes in which it is at all likely that death will ensue, under such treatment: the first is from the violent shock given to the nervous system, and the second from the loss of blood. Now it seems to me that one or the other, if not both of these, must inevitably result from such an operation, performed at such a period.

It is to be hoped that we may never hear of another case to appeal to for a settlement of the question.

Art. VII. *Extirpation of a Part of a Rib for Neuralgia.* By E. H. Dixon.

Oct. 16, 1838.— Jane Bailey, aged thirty, two years ago, was overturned in a carriage, and dragged something like a mile, receiving various contusions, and being taken out insensible. No lasting injury was the result, with the exception of a severe pain over the tenth rib of the left side, for which she received no treatment at the time, saving the customary bleeding practised on such occasions. A few weeks after the injury, the affected spot became the seat of a small irregular projection, and of exquisite and constant pain. This pain I conceive to have been neuralgic in character, from the commencement, inasmuch as it was occasionally of equal violence for weeks together, and not accompanied with other signs of inflammation. It would subside partially for a few hours, and then recommence with such intolerable severity, that the patient assured me death was anticipated as a relief to her misery. She had some little cough, with no expectoration; the cough I concluded to be the result of irritation, and constant loss of sleep, as I could detect no signs of pulmonary disease. The pain extended forwards and upwards, (from the projection which seemed to be near the sternal extremity of the rib,) over the stomach; upon turning her head and shoulders to the opposite side, so as to throw out the ribs, the projection was evidently caused by the end of the rib, as though the cartilage had been broken off. I at first thought it a fracture, with a redundant growth of bone, but, upon further examination, concluded the rib to be natural, though I could not account for its projection, without supposing a fracture to have occurred between the prominence and the vertebral articulation, thus destroying the natural curvature of the rib, opposing the action of the intercostal muscles, and favouring the absence of the cartilage; all this would sufficiently account for the projection. During the two years preceding the operation, the patient had been repeatedly cupped over the affected region, with momentary relief; part of this time was spent in the New-York Hospital;

her pain over the stomach being very acute; she had been treated whilst there for organic affection of that viscus. This, however, it seemed rational to explain, upon the principle of pain being continued from the irritated nerve, to its distribution; the anterior branch of the intercostal nerve going to the muscles and integument over the stomach. It was evident that counter irritation, however severe, would produce no benefit in such a case, and as the extirpation of part of the nerve itself was impossible, without the certainty of opening the cavity of the pleura, I resolved to remove the projecting portion of the rib, hoping that when the tension was removed, the pain would cease.

After agreeing in a diagnosis of its neuralgic character with Dr. S. P. White of this city, with his aid, and in presence of Dr. Throemorton, Weeks, and Guion, I removed about two inches of the rib, by means of a very cautious dissection; leaving the cavity of the pleura unopened; the cartilage was not attached, being, most probably, absorbed. There was nothing either peculiar or difficult in the operation; not a bad symptom ensued; the wound healed by adhesion in a week, the pain was removed instantly, and has not returned; the patient was examined by Dr. John Watson on the 15th of May, to whom she stated, that she had gained twenty-three pounds of flesh, a sufficient evidence, that a severely irritating cause had been removed.

Should this operation be thought unwarrantable, I can only say, that I knew of no other means of relief, and that the patient importuned me for three months to perform it, after having been told by many surgeons of eminence, as well as by myself in their presence, that it might prove fatal. She uniformly answered, that death was preferable to the life she endured. It is highly important that the extent and danger of operations, that may conscientiously be performed for neuralgia, should be determined, as the strongest constitution will, in time, yield to its violence. I have myself, witnessed instances, where long continued and exhausting irritation, even from tooth-ache, has been the evident cause of death; and, at this moment, I have a patient under my care, who would gladly lose a limb for relief from a neuralgic affection, involving the entire ankle joint. In this case, every other method, both constitutional and local, has already been tried in vain, and the powers of a naturally vigorous constitution, are yielding to its undermining influence.

HOSPITAL REPORTS.

A Report of Cases of Remittent Fever treated in the Medical Wards of the New-York Hospital, during the Summer of 1836. (F. U. Johnston, M.D., Attending Physician.) By N. Shook, formerly Resident Physician.

The New-York Hospital contains 108 beds for medical patients. During the year, the whole number of admissions into the medical wards is between eight and nine hundred.

The main building of the Hospital receives patients affected with all the acute diseases incident to the city and its neighbourhood.

The regulations of the Hospital exclude all incurable cases, (unless under circumstances of peculiar interest,) such patients being provided for at the Bellevue Hospital.

One building, however, is exclusively devoted to the reception of seamen, without reference to the nature of their diseases, (always excluding those that are strictly contagious;) hence we have among them diseases contracted at sea, in the different ports of the United States, and in foreign countries.

This regulation admits a great number of cases of fever, which, in consequence of the commercial relations of the city of New-York, and its crowded population, are of frequent occurrence during the summer and autumn.

The resident physician of the Hospital has every facility for the examination of patients, and for observing the treatment under the immediate direction of the attending physician.

This Report contains a summary of the cases of fever admitted into the Hospital during the five months ending October 1st, 1836. Its chief object is to make known our success in the treatment of remittent fever; of that form, especially, occurring among seamen from the southern states, called southern remittent, bilious, or malignant remittent, and in many respects resembling yellow fever; but as this year was remarkable for the great prevalence of typhus and typhoid fevers, not only in this city, but also in Philadelphia and in other seaports of the United States; and as reports of the cases occurring in these cities have been already published, I have determined to present a summary of the cases admitted into the New-York Hospital. This arrangement will enable me, also, to present, in strong contrast, the characteristic features of the different forms of fever.

While a walker of the Hospital during the summer and autumn of 1835, I had an opportunity of witnessing the great mortality which prevailed among the sailors arriving, with remittent fever, from the southern sections of the country, especially from the ports of Savannah, Ga. and Wilmington, N. C., these patients often dying within 24 hours after their admission into the Hospital. This great mortality may, in a measure, be accounted for when we reflect that three-fourths of the patients were attacked with the disease at sea, and were without medical treatment; so that by the time they had arrived in port and could be conveyed to the Hospital, the disease had approached its termination, rendering treatment of little or no effect.

I have also observed a fever always prevalent in this city during the summer months, called remittent fever, but entirely different in its symptoms, fatality, and pathological characters, from the above fever.

I had noticed, finally, that physicians of the first reputation differed very materially in their treatment of these fevers; hence I felt anxious to obtain a more accurate knowledge of their symptoms and pathology, but more particularly to investigate the merits of the *mild, stimulating, and supporting mode of treatment* pursued for many years by Dr. F. U. Johnston, one of the attending physicians of the Hospital. I regret that the large number of cases received prevented me from taking as minute notes in each case as I had intended to have done.

From the 1st of May to the 1st of October, 170 cases of fever were admitted, viz.

94 of remittent fever, of which	4 died.
47 of intermittent fever,	0
20 of typhus fever,	6
10 of typhoid fever,	5

REMITTENT FEVER.

Among the 94 patients admitted with remittent fever, the smallest number entered in May, the largest in September, as follows:

May,	5 patients.
June,	6
July,	10
Aug.	26
Sept.	47

More than 50 of these cases occurred in patients between the ages of 20 and 25 years; only 10 below the age of 20 years; 8 between the ages of 30 and 40 years—two above the age of 40 years. Of the whole number, 48 were sailors, and 46 labourers in the city or its neighbourhood.

Four cases terminated fatally, and 90 were discharged cured. One of the deaths occurred in a young female, who died of phthisis about 3 months after her admission. Two of them occurred among the sailors who were attacked with the fever in Wilmington, N. C., and who died soon after admission. The remaining death was that of an Irish labourer who was attacked while at work, a few miles from this city.

Those at all acquainted with the New-York Hospital, must be aware of the extreme severity of the southern remittent fever as it occurs among seamen during the months of September and October. No cases demand greater attention or more prompt and decisive treatment. It will be seen, however, by this report, that there were but 4 deaths in 94 cases. It may be thought from this, that the disease was milder than usual. I can only say, that Dr. Johnston, who has observed and treated this fever for many years in succession, both as it occurs among sailors coming from southern ports, and among the labouring classes in this city, was of the opinion that it presented the same symptoms of severity, the same history and pathology, as in former seasons, only that an unusual number of patients were admitted. Every attention was paid to the patients; every symptom was observed and noted at the bedside, in the morning, at noon, and in the evening. No patient was left alone at any time; he was visited every second hour, or oftener, if necessary.

The cases in the marine building were noted as distinct from those admitted into the main building, although all were called remittent fever. There was, however, a manifest difference between these cases, although I have called them by one name in this Report. Those occurring among sailors from southern ports were more malignant in their nature, more marked by congestions and by bilious symptoms, and of course more fatal. The class of persons usually attacked were also more dissipated; their constitutions having suffered from previous excesses, and I may add, from previous attacks of the same disease; for I have seldom asked a sailor if he had ever had the disease before, without his answering me in the affirmative. But very few of the cases originating in the city or its neighbourhood, were of the same bilious and congestive character; all the milder cases, however, in either class, presented the same symptoms, course, and termination, and were equally under the control of remedies. All the very severe cases were admitted during the months of August and September. I shall confine myself, therefore, to the 47 cases treated by Dr. F. U. Johnston, during the month of September, in which the course of treatment was the same, and not one case terminated fatally.

NAMES.	AGE.	EMPLOYMENT.	ADMISSION.	DISCHARGE.	RESULT.
James Smith,	30	Labourer,	Sept. 1,	Sept. 30,	cured.
Anthony Tonone,	19	do.	" 1,	Oct. 12,	do.
James Riland,	20	do.	" 1,	Sept. 13,	do.
J. B. Maskue,	34	do.	" 2,	Oct. 7,	do.
James Parker,	16	Seaman,	" 2,	Sept. 11,	do.
Fredk. Knownes,	21	do.	" 2,	Sept. 17,	do.
Peter Grant,	27	do.	" 2,	Oct. 26,	do.
Wm. Darley,	23	do.	" 3,	Oct. 3,	do.
Jacob Hock,	14	do.	" 5,	Oct. 3,	do.
Robt. Arnold,	27	do.	" 6,	Oct. 3,	do.
Wm. Banks,	19	do.	" 7,	Sept. 26,	do.

NAMES.	AGE.	EMPLOYMENT.	ADMISSION.	DISCHARGE.	RESULT.
Thos. Brooks,	25	Seaman,	Sept. 7,	Nov. 19,	cured.
James Stewart,	25	do.	“ 8,	Oct. 3,	do.
Thos. Murvin,	25	Labourer,	“ 8,	Oct. 1,	do.
Timothy Delano,	19	Seaman,	“ 10,	Sept. 18,	do.
John Richin,	32	do.	“ 10,	Oct. 1,	do.
Chas. Smith,	25	do.	“ 10,	Sept. 25,	do.
Edward Murray,	23	Labourer,	“ 12,	Sept. 26,	do.
Wm. Hobert,	24	Seaman,	“ 14,	Oct. 3,	do.
Chas. Shorfenburg,	26	do.	“ 16,	Sept. 26,	do.
John Shorten,	27	Labourer,	“ 17,	Nov. 18,	do.
Adolphus Frisby,	36	do.	“ 17,	Oct. 13,	do.
Walters Coleman,	25	do.	“ 17,	Oct. 13,	do.
Wm. Davison,	23	do.	“ 19,	Oct. 20,	do.
John Grady,	29	do.	“ 20,	Oct. 30,	do.
Anne Harris,	21	Servant,	“ 20,	Oct. 20,	do.
David McClark,	30	Seaman,	“ 21,	Sept. 30,	do.
Joseph Webber,	19	do.	“ 21,	Sept. 28,	do.
George Williams,	16	do.	“ 21,	Sept. 28,	do.
Mich. McNelly,	18	do.	“ 22,	Nov. 10,	do.
Patk. Krael,	20	Labourer,	“ 23,	Sept. 7,	do.
Wm. Romey,	30	do.	“ 23,	Oct. 28,	do.
Fantom Adams,	27	do.	“ 23,	Oct. 22,	do.
Andrew Johnson,	36	Seaman,	“ 23,	Oct. 24,	do.
Benj. Durand,	28	do.	“ 23,	Sept. 26,	do.
Adolphus Owey,	29	Labourer,	“ 26,	Oct. 10,	do.
Dennis Marran,	22	do.	“ 26,	Oct. 1,	do.
Fantom Duff,	48	do.	“ 26,	Oct. 15,	do.
Mastin Breman,	47	Seaman,	“ 26,	Oct. 31,	do.
George Sharp,	30	do.	“ 26,	Oct. 13,	do.
Thomas Robinson,	17	do.	“ 26,	Oct. 24,	do.
Daniel Adams,	39	do.	“ 27,	Oct. 24,	do.
Dennis Krael,	20	Labourer,	“ 27,	Oct. 7,	do.
Hugh O'Donald,	22	do.	“ 28,	Oct. 7,	do.
Geore Eunson,	27	Seaman,	“ 28,	Oct. 13,	do.
Jas. McLaughlin,	25	do.	“ 29,	Oct. 15,	do.
Alex. Sutherland,	37	do.	“ 30,	Oct. 24,	do.

Case I. — JAMES SMITH, aged 30, farmer, admitted September 1, 1836, with the following symptoms:

Great prostration of strength; lies upon his back; countenance dejected; cheeks flushed; lips dry; tongue dry and coated, with a thick brown fur in the centre, moist at the tip and edges; constant thirst; aching pains all over the body; cephalalgia severe; pulse 100, no petechiæ, a few sudamina on the neck;

abdomen distended, and somewhat painful to pressure; bowels have not been evacuated in two days.

History.—This patient was attacked with the fever eight days before admission, while at work, as a farmer, in a low marshy district a few miles from the city; the disease was ushered in by a chill, succeeded by flashes of heat; then pains in the limbs, great weakness, and loss of appetite.

Says he had a slight chill followed by heat, and thirst, every morning and evening.

Had taken no medicine before admission.

Treatment.—September 1st, 1836. The patient entered the hospital last evening, and took a purgative of calomel and rhubarb; this morning feels better; bowels moved three times, free evacuations; fever during the night severe; skin hot, thirst intense, desires ice, mind excited, but not delirious. Directed the spirit of Mindererus; beef soup for diet; Dover's powder at bedtime.

3rd. Symptoms the same, except a more distinct remission of the fever this morning. Snake root tea as a drink; and the spirit of Mindererus during the exacerbations of fever.

4th. Patient complains of soreness at the epigastrium, pain and soreness in the back very severe towards evening, entirely removed in the morning; tongue remains dry; bowels evacuated once since yesterday.

5th. This morning, found the patient with a warm, soft, moist skin; tongue moist; pulse calm, 90; indeed all the febrile symptoms abated. Now, the patient was directed a grain of the sulphate of quinine every second hour, to be discontinued in the evening, if the fever recurs to any extent.

Under this treatment, the patient rapidly convalesced, and was discharged cured, Oct. 1, 1836.

Case II.—Anthony Tonone aged 19, labourer, admitted September 1, 1836.

Symptoms.—Countenance dull and heavy; eyes suffused and glassy; not much prostration of strength, but complains of aching pain in the head, back, and legs; lips and mouth dry and parched; tongue entirely dry, covered in the centre with a thick brown fur, red at the tip; pain and great tenderness at the epigastrium; abdomen tympanitic, but not painful; skin hot; pulse 90, with some force; respiration hurried; no eruption of any kind upon the body.

History.—This patient was attacked a few days after his arrival in the city, with remittent fever; his previous health and habits were good; he had been ill 6 days previously to his admission into the hospital; he was attacked by a severe pain over the eyebrows, a chill, and loss of appetite; he had never had fever before; he had taken a dose of castor oil the day before admission.

Treatment.—September 1, 1836. The dose of oil taken yesterday has not operated. Patient feels very restless and complains of pain in the back and head. Directed a purgative dose of calomel and rhubarb, and the spirit of Mindererus.

2d. Bowels moved three times, free evacuations of dark liquid offensive stools; less fever this morning; snake-root tea as a drink; gruel and arrow-root, and the spirit of Mindererus during the exacerbations of fever. This treatment was continued until the 9th, when the patient was directed a grain of the sulphate of quinine every second hour, to be discontinued during the exacerbations at night, and to be resumed in the morning; a bottle of porter daily, and nourishing diet. The symptoms at this time were much the same as at the time of his admission.

On the 10th, I found the patient much improved; tongue moist, the edges covered with a whitish sticky saliva, as is seen in typhoid fevers when the mouth is first affected by mercury; slept well last night; very little fever this morning; skin moist and soft. From this time, (pursuing the same treatment) he convalesced, and was discharged cured, Oct. 1, 1836.

Case III.—James Riland, aged 20, servant, admitted September 1, 1836.

Symptoms.—Countenance dull; lips pale; no delirium; great prostration; aching pains in the head, back, and limbs; thirst; skin hot and dry; tongue coated in the centre with a thick whitish fur, but moist, red at the tip and edges; in the evening during the exacerbation of fever the patient becomes restless, tossing about in bed; no sleep; no nausea or vomiting; abdomen painful on pressure, apparently more the result of increased sensibility of the skin than of inflammation; pulse 100, and feeble; one or two liquid stools a day.

History.—This patient had arrived in New-York four weeks before his illness; his previous health and habits were good; he was attacked with the fever ten days before admission, but took no medicine of any kind. Says he was suddenly seized with a severe pain across the forehead; he had no chill, but great heat and thirst.

Treatment.—September 1, 1836. The patient was directed at bedtime ten grains of calomel and one of opium.

2d. But one evacuation since last evening; less fever this morning; slept some last night. The patient was now directed the snakeroot tea as a drink; the spirit of Mindererus during the exacerbations of fever, and nourishing diet.

3d. The symptoms the same as yesterday; pulse last evening 110 with some delirium, but he is easily aroused and answers questions rationally.

P. M. Found the patient with a soft moist skin; tongue moist; less cephalalgia; pulse about 95.

4th. Commence the quinine; the bowels not having been moved for twenty-four hours the patient was directed one ounce of castor oil.

5th. Patient not quite so well; more excitement; bowels not moved; the eccoprotic mixture (rhubarb and magnesia) was given, which, in the course of three hours caused two copious evacuations; quinine discontinued.

7th. Patient much better; resume the quinine.

9th. Patient convalescing; continue the quinine.

13th. Discharged cured.

Case IV.—John B. Maskue, aged 34, labourer, admitted September 2d, 1836.

Symptoms.—Great prostration; lies upon his back; some stupor, but easily aroused; complains of great pain in the back and legs; cephalalgia moderate; eyes suffused; conjunctiva a little yellow; countenance dejected; lips and mouth parched; tongue dry in the centre, moist and clean at the edges; skin very hot and rough; respiration hurried and laborious; lungs not affected; abdomen painful upon pressure; epigastrium tender; pulse 100, and feeble; bowels free; one or two liquid stools during the day.

History.—The patient arrived in this country but a few weeks before his illness; he was attacked with the fever nine days before his admission. He says he had a slight chill, succeeded by flashes of heat, every afternoon since his sickness, but no distinct interval without fever. No medicine given him previous to his admission.

Treatment.—September 2d. The patient was directed the eccoprotic mixture, composed of rhubarb and magnesia.

3d. Patient the same as yesterday; bowels freely operated on by the medicine, stools more consistent. From this time to the 8th, he took an occasional dose of oil, whenever his bowels were costive, Dover's powder at bedtime, and a table spoonful of the spirit of Mindererus every second hour, with a light farinaceous diet.

On the 8th of September, being the sixth day after his admission, and the 16th day of the fever, finding no abatement in the symptoms, Dr. Johnston directed him to take a grain of the sulphate of quinine (in solution) every second hour; a bottle of porter daily, and as a drink, the snakeroot tea; also, beef soup.

At the time the patient commenced this treatment, he presented the following symptoms: tongue dry and cracked, not much coated, (at his entrance, the edges of the tongue were moist;) pulse 100 in the morning, and 108—110 in the evening; no distinct remission of fever in the morning; exacerbations in the evening; slight tenderness on pressure over the epigastrium; the stupor changes to slight delirium in the evening; no petechiæ or sudamina on the body; urine scanty and high coloured; no evidence of inflammation to prohibit such a course of treatment.

On the 9th, I found the patient much better; tongue moist at the edges; expression of the countenance not so dull; a slight perspiration over the whole body; pulse 95, and soft.

Under this treatment the patient rapidly convalesced, and was discharged cured on the 1st of October.

Remarks.—The four preceding cases very much resembled each other; they had been ill from six to ten days before coming to the hospital: two commenced improving on the 14th day of the disease, six days after admission: the other two, on the 15th day of the disease, eight days after admission; treatment the same.

I will now offer four cases as examples of the southern remittent fever, — the preceding cases having originated in this city.

Case V.—FREDERICK KNOWNES, aged 21, seaman, admitted into the New-York Hospital September 2d, 1836.

SYMPTOMS at the time of admission. The patient was conveyed to the hospital in a very debilitated and exhausted condition. Skin hot and dry; pulse 110 with some force; lies in bed upon his back, perfectly abandoned; countenance dejected; cheeks flushed; tongue swollen and covered with a dense whitish coat, moist, not red at the tip; epigastrium tender; no swelling or tenderness of the abdomen; some few sudamina on the neck and about the groin; no petechiæ; no nausea or vomiting; bowels loose from previous treatment; the cephalalgia, which was very severe yesterday, has entirely ceased to-day.

HISTORY.— This patient arrived from Mobile ten days before admission, and was attacked with fever three days after arriving in the city. Says he had violent chills, which were immediately followed by great heat and thirst, pain all over the body, and diarrhœa.

The captain of the vessel gave him a large quantity of brandy to drink, as he said to break the fever, supposing it to be a case of fever and ague; this only aggravated the disease, and the patient was brought to the hospital on the seventh day of the fever.

TREATMENT.—September 2d. Ten grains of Dover's powder at bedtime.

3d. Bowels not moved since last evening; not so restless; slept some; delirious in the night; spirit of Mindererus; gruel and arrowroot.

4th. Bowels moved 4 times in the night; dark offensive liquid stools; complains of pain in the bowels; cephalalgia more severe to-day; tongue has become dry and cracked; less fever towards noon, but no distinct interval of remission.

Directed 3 doses of Dover's powder during the day.

6th. Patient is somewhat better; the diarrhœa checked; extremely exhausted; pulse 110 and feeble; the stupor changes to delirium in the evening during the exacerbation of fever, which lasts until eleven or twelve o'clock in the night. Commence snakeroot tea with a more generous diet; rich soup and a little porter after each meal. This treatment was continued until 7th, when, there being but little improvement in the symptoms, Dr. Johnston directed quinine to be given; porter continued; spirit of Mindererus; a remission of fever this morning.

10th. Patient improving; continue the same treatment.

12th. Convalescing.

17th. Discharged cured.

Case VI. — PETER GRANT, aged 27, seaman, admitted September 2d, 1836.

SYMPTOMS.—Grant came into the hospital in a very feeble condition I found him, two hours after admission, with the following symptoms: he lies upon his back; face pale and dejected; eyes suffused; conjunctiva a little yellow; skin exceedingly hot; tongue coated with a brown fur, but moist; lips pallid; pulse 110, and irregular; some subsultus at the wrist; complains of aching pains in the back; cephalalgia severe; bowels regular; urine small in quantity and turbid; stupor, but easily aroused; no eruption of any kind on the body.

History. — This patient had a slight bronchial affection for three or four weeks before the attack of fever; he arrived from Savannah nine days before admission and was attacked with the fever the day after his arrival; says he had some fever before leaving the port of Savannah, where the congestive fever (as they call it) raged to a considerable extent, but that it left him on the passage, and he was taken with it again the day after arriving in this port. During his illness, (eight days) took no medicine.

Treatment. — September 2d. The patient arrived in the hospital in the evening, when he was directed 10 grains of Dover's powder.

3d. Patient somewhat better this morning; slept about three hours last night; pulse this morning is calm, 98. Snakeroot tea as a drink; gruel and arrowroot as diet; bowels moved twice during the day; free consistent evacuations.

4th. Symptoms the same; spirit of Mindererus, and a more generous diet.

5th. Patient had a distinct remission of fever this morning; tongue dry; pain in the head the same. He was now directed half a grain of the sulphate of quinine every hour; a little porter; continue the snakeroot tea.

7th. Found the patient quite comfortable; perspired freely during the night; no pain in the head; tongue moist; same treatment continued.

12th. Convalescent.

On the 20th, this patient was attacked with slight pneumonia, which detained him in the hospital until the 26th of October.

Case VII.—Wm. Darley, aged 23, seaman, admitted Sept. 3, 1836.

Symptoms.— The patient lies upon his back much exhausted; expression of the eyes and countenance, dull and heavy; heat of skin; determination to the head denoted by the following well-marked symptoms: flushed cheeks, burning heat, conjunctiva injected, severe pain across the forehead, sometimes darting pain in the head, mind confused, at times delirium.

Complains of pain in the back and limbs; incessant thirst; retching and vomiting of green bilious matter; breathing hurried and laborious; pulse 95 and somewhat tense; abdomen distended, not tympanitic, but painful on pressure; no kind of eruption on the body; oppression at the præcordia; tongue clean, pointed, and dry in the centre.

History. — This patient arrived in New-York on the 26th of August, and was attacked with remittent fever three days before admission. The attack was ushered in by a distinct chill, succeeded by flashes of heat; no sweating;

this was in the evening; the following morning, had another chill; says he has taken a dose of salts, which is all the medicine taken since the attack.

TREATMENT. — Sept. 3, 1836. — The medicine taken yesterday had operated freely upon the bowels, and the patient was directed immediately after admission 10 grains of Dover's powder; cold ablution to the head, and arrowroot as diet.

4th. Better this morning; slept most of the night, and perspired freely; bowels moved but once since taking the medicine; less pain and distress in the head; febrile excitement the same.

5th. Symptoms the same; exacerbation of fever last evening very severe; delirious all night; tongue remains dry and parched; complains of excessive pain in the back and legs.

Direct a bottle of porter to-day; snakeroot tea; spirit of Mindererus during the stage of excitement.

P. M. Bowels too loose; 10 grains of Dover's powder at bedtime.

6th. Symptoms the same — continue the same treatment.

8th. No abatement in the symptoms. Dr. Johnston now directed half a grain of sulphate of quinine every hour, with a more generous diet; effervescing draught during the exacerbation; cold water to the head.

10th. Patient somewhat better — same treatment.

12th. Convalescing.

Oct. 3d. Discharged cured.

Case VIII. — WM. BANKS, aged 19, seaman, admitted Sept. 7, 1836.

SYMPTOMS. — Banks was conveyed from the ship to the hospital, immediately after arriving in port, in a very prostrate condition, scarcely able to utter a syllable; lies upon his back perfectly abandoned; muttering delirium; great heat of skin; head and abdomen hotter than other parts of the body; countenance dull; lips and mouth dry and parched; tongue clean, dry, and pointed, red at the tip and edges; pulse 115, and very feeble; abdomen very sensitive to pressure; vomits green bilious matter; asks for cold water; sudamina about the neck and groins; urine turbid, with a brick-dust sediment; discharges from the bowels, thin, slimy, offensive, and of a dark colour.

HISTORY. — This patient was attacked with fever eight days before admission, on his passage from Wilmington, (N. C.) He had diarrhœa two days previous to the attack of fever, which has continued ever since; says he has taken no medicine.

TREATMENT. — Sept. 7, 1836. The patient was directed at bedtime 10 grains of Dover's powder, and 5 grains of calomel.

8th. Symptoms the same; Dover's powder repeated, spirit of Mindererus, and a generous diet.

9th. Patient somewhat better; discharges from the bowels checked; febrile excitement less, though no distinct remission of fever.

10th. Patient worse; sordes about the teeth; tongue dry and cracked; eyes look glazed; breathing is quicker and more anxious; muttering delirium; incessant thirst; great tenderness of the epigastrium; vomits as soon as anything is taken in the stomach; ordered effervescing solution.

12th. Symptoms the same, except that the vomiting has ceased; snakeroot-tea, beef-soup, and a little wine-whey.

14th. This morning, the 7th day since his admission, he commenced taking quinine in small doses; wine-whey continued; spirit of Mindererus.

15th. Found the patient better this morning; same treatment continued.

16th. Still continues to improve; skin soft and moist; tongue begins to be moist.

18th. Convalescing.

26th. Discharged cured.

REMARKS. — The symptoms, treatment, and termination of the four last cases differ little from the four preceding ones. One commenced improving on the 11th day of the disease, one on the 14th, one on the 15th, and one on the 16th; three were sick eight days before admission into the hospital, one only three days, and this one commenced improving on the 11th day of the disease. Whenever patients were brought to the hospital before the 5th or 6th day of the fever, convalescence commenced before the 15th day, unless the fever was complicated with some accidental lesion.

The following cases will illustrate the disease as it appeared later in the month. It is unnecessary to report each individual case, for in most of them it would be merely a repetition of symptoms and treatment.

Cases IX. & X. — PATRICK and DENNIS KEARL, twin-brothers, aged 20, admitted Sept. 23, 1836.

SYMPTOMS at the time of admission, 11th day of the fever. Not much prostration of strength, but great febrile excitement as manifested by the following symptoms in each, viz.: flushed face; burning skin; eyes glazed; conjunctiva injected, and a little yellow; cephalalgia very severe; lips and mouth parched; tongue moist, and coated with a thick, dirty, white fur; incessant thirst; asks for ice-water; complains of aching pains in the back and limbs; vertigo; intellect dull; loss of appetite; vomiting of green bilious matter; no eruption of any kind upon the body.

HISTORY. — These two brothers were attacked with fever eleven days before admission, while at work a few miles from the city, in a low, marshy district, where fevers (intermittent and remittent) have prevailed for several years. They arrived from Ireland four weeks previous to the attack; had drank freely ardent spirits, and had taken no medicine.

TREATMENT.—Sept. 23, 1836. Immediately after admission, they were directed the eccoprotic mixture, to be followed as soon as it had operated, by the spirit of Mindererus, a table-spoonful every hour.

24th. Febrile excitement increased; pain in the head very severe; pulse 110 and full; a remission of the fever towards noon.

Direct small quantity of the tartrate of antimony to be added to the spirit of Mindererus; diet of gruel and arrow-root.

25th. Patients a little better; same treatment continued.

26th. Give one grain quinine every other hour.

27th. Both patients somewhat better.

29th. Still improving.

Oct. 2d. Convalescing.

7th. Discharged cured.

Case XI.—ALEXANDER SUTHERLAND, aged 35, seaman, admitted Sept. 30, 1836.

SYMPTOMS at the time of admission. Extreme prostration; almost perfect coma; answers no questions; lies upon his back; pupils contracted; face flushed; sordes about the gums and tongue; desires constantly to pick his lips and tongue; pulls the bedclothes; high fever; pulse 110, and feeble; skin dry and hot, temperature of the head and abdomen greatest; subsultus tendinum at the wrist; no petechiæ or sudamina; can get no information as to the condition of his bowels or urine; symptoms altogether very unfavourable.

HISTORY.—The only information I could obtain from his shipmates was, that he was seized with the fever twelve days ago, on the passage from Savannah; that he had a chill, followed by great heat and feebleness; pain in the head and back; and that on the third day of the fever, he became delirious.

TREATMENT.—September 30th. The patient was ordered immediately after admission, wine whey, he could swallow but a few drops at a time; mustard sinapisms to the feet and epigastrium.

These means succeeded in a few hours in arousing him sufficiently to answer questions, and to swallow quite easily.

Oct. 1st. Better; slept about an hour; had a free alvine discharge; voids no urine; complains now of aching pains all over the body.

Direct snakeroot tea; a bottle of porter; the wine-whey continued; spirit of Mindererus during the exacerbation of fever.

P. M. Fever worse again, though not so much determination to the brain as at the time of admission.

2d. Patient somewhat better this morning; Dr. Johnston now directed me to give him half a grain of the sulphate of quinine every hour in addition to his other remedies.

P. M. Exacerbation this evening less marked.

3d. Slept well last night; feels better this morning; pulse 98 and stronger. Same treatment.

4th. Better; sordes about the mouth disappearing.

5th. Much better. Omit quinine and porter; continued wine-whey.

10th Convalescing.

24th. Discharged cured.

Remarks.—This was a case of great severity, with strong determination to the head, and portending a fatal termination. It furnishes a fair example of at least one quarter of the patients that are admitted during the months of September and October, into the Seaman's Hospital, of fevers contracted at the south.

The case illustrates, also, very forcibly, the benefit of the supporting plan of treatment, for here were symptoms that denoted great congestion of the brain, and of the abdominal viscera, and the treatment that naturally suggests itself, would be strictly antiphlogistic, if not depletory; but not so to one well acquainted with the character of this disease; his only object is to support the sinking energies of the system by equalising the circulation, and restoring the functions of the more vital organs, and thereby enabling his patient to rally under the disease. This he is aware cannot be done by any means which will destroy or diminish, in the least degree, the nervous energies of the system.

These are all the cases my limits will permit me to set forth in detail, but to illustrate the pathology of this fever it will be necessary to introduce the notes of the *post mortem* examinations, of those patients that died during the month of August.

It will be recollected that of forty-seven patients admitted into the hospital during the month of September, all recovered, and that of 94 patients admitted during the season, only 4 died, in two of which alone could *post mortem* examinations be obtained. The characteristic lesions of remittent fever cannot be ascertained from so small a number of autopsies, still we find from these that the mucous glands of the small intestines, which are so commonly ulcerated in typhoid fevers, were not in the least degree affected. We may also infer, not only from the autopsies of these two cases, but from the symptoms of most of the patients, that the stomach, liver, and spleen, suffer more in remittent fever than in typhus or typhoid.

Case XII.—DANIEL QUINLIN, aged 37, labourer, admitted August 19th, 1836.

SYMPTOMS.—Constant retching and vomiting, rejects every thing taken into the stomach; extreme pain and tenderness at the epigastrium; tongue clean and red at the tip and edges, in the centre it is smooth, the papillœ assuming a radiated appearance; great thirst; begs for water, but rejects it as soon as taken; the adnata deep yellow; skin somewhat yellow; very restless, tossing about in bed; skin hot and dry; pulse 110, and somewhat tense; cephalalgia; complains only of pain and distress at the stomach.

HISTORY.—This patient was attacked with fever at Yorkville, five days before admission; says that during his residence in this country, (two years,) he has had several attacks of fever, but none so severe as this; vomiting commenced the day following the attack, and has continued ever since.

TREATMENT.—This patient survived but three days after admission; medicine had no effect in controlling the vomiting. Leeches to the epigastrium, ice, milk and lime water, soda in its various forms, hot brandy toddy were resorted to, but with no effect.

AUTOPSY.—Eight hours after death.

HEAD.—The cavity of the cranium was carefully examined, but no traces of disease discovered.

CHEST.—The only lesion discovered in the chest, was congestion of the posterior inferior portion of the left lung.

ABDOMEN.—The stomach was found much diseased.

The mucous coat throughout its whole extent was of a bright red colour; no patches of inflammation as in some of the cases of typhoid fever.

The inflammation extended through the pylorus, along the duodenum, to the termination of the jejunum.

The Glands of Peyer were carefully examined and found in their normal condition; large intestines healthy; spleen enlarged, about eight inches broad, and seven long, of a dark blue colour, pulpy consistence, yielding, when cut, an abundance of black fluid blood, and crushed on slight pressure.

Liver somewhat larger than natural, hard and granulated, of a yellow colour, and containing very little blood.

Kidneys and mesenteric glands normal.

Case XIII.—CHARLES NICKERSON, aged 31, seaman, admitted August 27th, 1836.

SYMPTOMS.—Great prostration of strength; countenance expressive of deep distress; muttering delirium; answers no questions; cannot protrude the tongue;

sordes about the teeth and gums; eyes suffused; pupils contracted and immoveable; incessant thirst; appears to suffer great pain in the head and abdomen; epigastrium extremely tender to pressure; abdomen distended and tympanitic; flatness upon percussion over the liver and spleen, much greater than natural; skin hot and dry; urine of a bright red colour, and small in quantity; sudamina on the neck and groin; no petechiæ; pulse 106, irregular and thread-like.

HISTORY.—All I could learn in regard to this patient, was that he was attacked three weeks ago, on the passage from Savannah, and that he had taken no medicine.

The symptoms at the time of admission, very much resembled those of typhus fever; but the previous history of the patient as well as the more characteristic symptoms sufficiently distinguish it from that disease.

He died three days after admission into the Hospital.

AUTOPSY twelve hours after death.

The brain exhibited congestion of some of its larger vessels, but no traces of inflammation in any part of its substance.

CHEST.—Old adhesions of the pleura; right lung somewhat congested, left lung healthy.

ABDOMEN.—Here was discovered the principal lesion.

The mucous coat of the stomach inflamed, but not to so great an extent as in the preceding case; the inflammation appears to have commenced at the pyloric extremity of the stomach, and extended along the greater curvature. The duodenum and jejunum very much inflamed, but not ulcerated. *The glands of Peyer scarcely visible;* the isolated glands of Brunner prominent, but not inflamed. The large intestines filled with dark, thin, offensive fœces, and distended with gas.

SPLEEN about double its natural size, of a bright blue colour, and much softened.

LIVER hardened, but of its natural size; of a bright yellow colour, distinctly granulated, and containing little blood.

Kidneys and mesenteric glands normal.

REMARKS ON THE TREATMENT OF REMITTENT FEVER.

It appears from the treatment of the preceding cases, that *tonics* were the principal remedies employed. I am aware that tonics have been long given in the stage of convalescence from remittent fever; but the administration of wine, quinine, serpentaria and nourishing soup, to a patient with a dry harsh cracked tongue, dry hot skin, pulse one hundred and ten, severe aching pains of the limbs, and delirium without any previous depletion, is a practice not so common. It is said that tonics should not be administered when the tongue is dry, and the skin hot and free from moisture, and when there is great pain in the head with a rapid pulse—in just such cases were wine, porter, and quinine given with the most gratifying results. The skin became soft and moist; the pulse more calm; the delirium subsided; the tongue immediately began to show that the mucous membranes were acted on, and that an altered state of the secretions was taking place. Tonics not only produced a gradual and permanent influence on the appetite and strength of the patient, but they produced an immediate impression. The improvement was sometimes so rapid as to be very remarkable from one day to the next.

A doubt may arise as to the propriety of using tonics in the early stage of the fever; they were used in all the stages, although at times disadvantages followed their employment; occasionally the quinine would irritate the stomach and increase the fever; if so, (which was rarely the case) the medicine was discontinued until the severity of the symptoms abated.

The *quinine* was always given in solution, and in small doses; if the excitement was great, the use of it was suspended in the evening.

Immediately after admission into the hospital, the patient's bowels were evacuated by some mild purgative, either rhubarb and magnesia, or castor oil; calomel was seldom employed. The following day, if there was a distinct remission of the fever and no local inflammation to prohibit it, the quinine was given; in most cases, it was not given before the third or fourth day after admission. It was usually continued until the stage of convalescence; together with the quinine was administered an infusion of the roots of the *aristolochia sepentaria*—an ounce to the pint of boiling water. This was given to the patients as a common drink in all stages of the fever. If too bitter and strong, it was diluted with cold water.

Porter was given in many cases with decided benefit, but if it produced diarrhœa it was at once suspended. *Wine-whey* was given to all the patients that were admitted late in the disease with great prostration and exhaustion, even if the tongue was perfectly dry and the gums covered with sordes; it was surprising to see the rapid improvement in such cases. When given in conjunction with porter, the quantity was about eight ounces daily, but as a temporary prescription to obviate extreme prostration, it was not restricted to this quantity. If care be taken to refrain from wine when there is acute inflammation of some organ, no inconvenience will result from its use.

The spirit of Mindererus was given in every case of fever as a sudorific; how far it had the desired effect, independent of the other remedies, I cannot say, as it was always given in conjunction with them.

The frequent *ablution of the head* and limbs with cold water was found very agreeable to the patients, and of a good deal of efficacy in equalizing the capillary circulation. Ice water to the head during the height of the fever, was one of the most useful remedies in abating the febrile excitement.

Anodynes were given with the most happy effect; nothing appeared to allay nervous irritability and restlessness so well as an anodyne; either ten grains of Dover's powder, or a few drops of the solution of sulphate of morphine. It quieted the patient, abated the delirium, and induced sleep. From the decided benefit that morphine produced in most cases, I should class it amongst the most useful remedies in remittent fever.

TYPHUS FEVER.

The twenty cases of typhus fever occurred among a large number of emigrants who arrived at New-York, from Ireland, in the latter part of May, 1836. They were landed from the two vessels, Garonne and Caravan; on board the Garonne were two hundred passengers, of whom two-thirds were sick with typhus fever, at the time the vesel arrived.

History and causes.—The history of these cases will truly entitle them to the name of ship fever. The Garonne and Caravan left Liverpool about the 20th of March, and arrived at Amboy (New-Jersey,) on the following 26th of May; the fever broke out before they had been at sea one month, attacking only the middle aged. During the voyage no provision was made for their comfort or attendance; confined to two apartments with no ventilation, their provisions nearly exhausted and of bad quality, their clothes not changed during the whole voyage, which was unexpectedly protracted, it is not to be wondered at that typhus infection should be generated, for here were combined the most productive sources of the disease.

SYMPTOMS.—The first symptoms that manifested themselves on board the vessels, were great stupor, and total prostration of strength; cephalalgia; aching pains in the limbs, particularly in the small of the back and calves of the legs; incessant thirst, and heat of skin; loss of appetite; ringing in the ears, or deafness. The symptoms upon admission, varied very much in different cases, dependent upon the stage of the fever when brought into the hospital. I had an opportunity, however, of witnessing all the stages of the fever; also of seing many patients treated in the city; who were attacked after they had landed; districts became infected with the fever, and the disease raged to a considerable extent in the months of June and July.

Throughout the course of the disease there was great determination of blood to the brain, and almost entire deafness during the stage of excitement; as that stage passed, the sense of hearing began to be restored. During the stage of excitement, which continued from eight to ten days, the patients were uncontrollable, raving with delirium, constantly muttering or talking, and extremely restless and sliding down in bed. After the eighth or ninth day from the commencement of the fever, *petechiæ* made their appearance, mostly upon the abdomen and chest; small red or purple spots, not elevated above the surface of the skin; these spots were different from the regular round rose-coloured spots seen in the ten cases of typhoid fever. The eruption of sudamina, or minute transparent vesicles was observed about the neck and groins, but this eruption was the same in typhoid fever, and in many of the severe cases of remittent fever. The cerebral symptoms were the most characteristic of typhus fever; stupor was perceptible from the time they were attacked with the disease, and continued until convalescence; when this stupor amounted to complete coma, the case terminated fatally: though deafness attended every case, the patient could be aroused by a loud tone of voice.

Subsultus was observed in most cases. The abdomen was not much affected by pressure, but a singular sensibility of the skin existed which was observed in all the cases; the urine was high-coloured and scanty; the pulse varied from 90 to 120; when above 125 it was a fatal symptom.

TREATMENT.—As regards the treatment of these cases of typhus fever, we can arrive at no definite conclusion how far any remedy or class of remedies assisted either in diminishing the mortality, shortening the duration, or mitigating the severity of the disease; to do this, it would be requisite to note accurately the effect of remedies upon the course and termination of a great number of cases, and then compare them with other epidemics of the same disease. I can state, however, that in the twenty cases, notwithstanding every attention was paid them, every symptom closely watched, noted at the bedside, and met with corresponding treatment, the disease appeared to run a definite course. True, our remedies had a great effect in diminishing the severity of particular symptoms, and thereby materially increased the comfort of the patient. Most of the cases were complicated, with inflammation of some particular organ — the lungs and brain suffering most. These complications rendered the treatment strictly antiphlogistic; local bloodletting to the chest and temples was resorted to in most of the cases; cold water poured upon the head, always mitigated the cerebral symptoms, often arresting the delirium and inducing sleep, which was a very favourable symptom; blisters to the neck where the cerebral symptoms were violent, were also of decided efficacy in diminishing these symptoms; cathartics always prostrated the patient and aggravated the symptoms, as was evinced whenever calomel acted as a purge. Four cases out of the twenty were salivated, that is the gums were slightly touched—all four recovered, and more rapidly than the other cases.

The duration of the disease was much protracted, from the complication of inflammation developed during the course of the fever, and lasting after the fever had completely disappeared. Most of the cases were under treatment for about thirty days. Tonics were used only during the stage of convalescence, except in those cases that were not complicated with inflammation; in these, tonics were given as soon as the patients had escaped the violence of the disease and with a decided and rapid improvement; the tonic most employed, was the sulphate of quinine; the diet was a mild farinaceous one, with animal broth.

POST MORTEM APPEARANCES.—There was not the same uniformity of lesions observed in typhus fever, as in typhoid, or in remittent fever; of six who died, five were examined; one was carried away by the friends of the patient before an examination could be made.

HEAD.—The veins of the brain appeared much loaded with black blood, particularly on the external surface of the dura mater and in the sinuses; the ventricles, in all the cases, contained some serum, but the greatest quantity was not more than two drachms; in three cases, the tunica arachnoides was opaque and thickened. In one of the cases the medullary portion of the cerebrum was softened, and the arteries loaded with blood. When cut into, the blood ran over the scalpel. This was ten hours after death.

THORAX.—The only lesion of importance observed in the chest, was in a patient who died of typhus fever and pneumonia, on the fourth day after admission into the hospital. Hepatisation had taken place in the inferior posterior portion of both lungs; the superior portion of the right lung was much congested; that of the left, healthy; old adhesions.

ABDOMEN.—The liver and spleen were found in their normal condition, except in three cases where the liver was slightly softened. The mesenteric glands were healthy. The stomach and intestines were distended with gas, and in all the cases a softening of the mucous coat of the stomach was noticed; in one case the finger could pass through the coats of the organ by the slightest pressure; in three cases, the stomach contained slight patches of inflammation, about the size of a pea, of a bluish red colour.

The intestines were closely examined; the *clustered glands of Peyer were in every instance normal;* whereas, in the cases of typhoid fever, they were all more or less affected. In one case, in which dysentery existed, patches of inflammation were found in the large intestines; in the other cases, the mucous coat was healthy.

TYPHOID FEVER.

The ten cases of typhoid fever will be found by examining the hospital register under the head of remittent fevers of a typhoid character, or, as two of them were registered, *synocha.*

The symptoms and anatomical lesions all resembled each other, but differed very materially from those of remittent and typhus fevers. It is the form of fever which is so common at Paris, and which has been studied with extreme accuracy by Louis and Chomel. Dr. Gerhard, of the Philadelphia Hospital, has given a very able report of the same fever, as witnessed by him during the summer of 1835 — 6, showing that the disease differs very much from true typhus, or typhus gravior, ship or jail fever; also, showing from a number of cases examined after death, that the disease is identical with that witnessed at Paris, called typhoid fever, or typhoid affection, or from its anatomical characters, dothenenteritis, (all names belonging to one disease.) The *post mortem* examinations of the four cases that terminated fatally, were carefully noted, as were the symptoms, treatment, and history, previous to death. The anatomical lesions were the same in every case but one, differing, however, very much from those observed in typhus fevers.

It would be deviating too much from the original design of this report, to enter more minutely into the symptoms, history, and pathology of this fever; therefore I will merely report two cases in full, which will sufficiently illustrate the disease as different from typhus fever.

Case XIV.—EDWARD GIBSON, aged 26, shoemaker, born in Penn., admitted June 16, 1836, with typhoid fever.

SYMPTOMS at the time of admission. Great prostration of strength; skin hot, dry, and harsh; pulse 100, and very feeble; tongue dry, covered with a thick, brown, dirty looking coat; lips dry and dark coloured; the tongue red at the tip and edges; temperature of the head and abdomen greater than that of any other part of the body; the patient complains of no pain, but of soreness; expression of the countenance is that of dejection and prostration; intelligence rather dull; cephalalgia slight; no ringing in the ears as in typhus; sleep disturbed; no coma as in typhus; liquid stools; asks for cold water.

HISTORY.—The patient was not in a condition to give me any information of his previous history; and the only information I could obtain from his friends was, that he was attacked, fourteen days previous to admission, with fever, while at work in the upper part of the city; that he had taken but little medicine during his sickness; that he was out of his mind every evening, but somewhat better in the morning; and that he was always considered a temperate man.

TREATMENT.—June 16. At bedtime the patient was directed to take 10 grains of calomel, and 10 grains of Dover's powder; and the following morning to commence taking 2 grains of calomel every second hour, with a farinaceous diet.

18th. Two days after admission, the calomel was discontinued, the patient's mouth being slightly affected, and the spirit of Mindererus substituted; discharges from the bowels, thick, black, pitch-like, and offensive; exacerbations of fever in the evening; tympanitis of abdomen.

19th. Camphor mixture—a table-spoonful every third hour; borax gargle for the soreness of the mouth.

Patient is worse; sordes in the mouth increased; cannot protrude the tongue; pulse 100 in the evening, and 90 in the morning; less delirium in the morning, but no distinct remission of the fever.

20th. Substitute for the camphor mixture, 3 grains of camphor every third hour; and as a drink, the seneka infusion. From this time to the 26th, the patient gradually improved, so that the exacerbations of fever in the evening became slight; skin less hot, and the tongue clean and moist at the edges; less delirium, pulse 90; evacuations from the bowels liquid, and of the same nature as on the 18th. This peculiar looking evacuation from the bowels I never witnessed in any case, except when I found ulceration of the intestines after death. From the 26th to the 6th of July, the patient became worse and worse; the abdomen now extremely painful to pressure, pulse 110, and all the symptoms assuming a typhoid type. Tonics and stimulants were employed freely; died on the 6th of July: the following were the *post mortem* appearances ten hours after death.

AUTOPSY.—The head was not examined, as it was necessary to finish the examination as soon as possible. The chest was found in a normal condition, except slight inflammation of the bronchial tubes.

ABDOMEN.—Gas in the stomach and bowels; slight patches of inflammation near the pyloric extremity of the stomach; no softening of the mucous coat.

Extensive ulceration of the glands of Peyer, commencing about three inches from the termination of the jejunum, and ending at the ileo-cœcal valve. At the middle of the jejunum, slight round patches of inflammation began to be visible; at the end of this portion of the small intestines, a few of the glands of Brunner presented round elevated ulcers, slightly depressed in the centre but without hardened edges, as in the clustered glands of the ilium.

In the ilium, commencing at its upper extremity, were seen spots of merely slight thickening of the mucous coat; then the glands became more prominent, red, with the centre a little depressed and ulcerated; the ulcerations becoming broader and deeper and more numerous as they approached the ileo-cœcal valve; the last ulcer was at least two inches in length, of an oblong shape; all the ulcers, of any size, had a hardened base which appeared to extend deep into the cellular tissue; their edges were elevated; their surfaces were irregular, of a dark red colour, and surrounded with a dark, thick, pitch-like substance, like that which was evacuated from the bowels before death. Adhering to one of these large ulcers was a yellowish mass, apparently a slough of the mucous tissue. The mucous membrane, between the ulcers, was not much inflamed; but the cellular tissue, for about two to three lines around the ulcers, was thickened and inflamed.

The large intestines, containing the same kind of fœcal matter mentioned above, were distended with gas; the ascending portion of the colon was of a deep red colour; the remainder of the large intestines healthy.

The *mesenteric* glands, opposite the large ulcers, much larger than usual, and softened.

The spleen and liver were healthy.

Case XV.—WILLIAM BROWN, aged 24, seaman, admitted August 14th, 1836.

SYMPTOMS.—From the extreme prostration and exhaustion at the time of this patient's admission into the hospital, there was but little hope of a recovery. He lies upon his back with his legs drawn up upon the abdomen; peculiar expression of countenance not witnessed in any other case; deep livid hue of the lips; eyebrows contracted; expression of deep internal pain; great anxiety and restlessness—tossing about in bed but always keeping the legs flexed upon the abdomen; abdomen tympanitic, and painful upon pressure; bowels not moved in twenty-four hours; skin hot, dry, and harsh; pulse 120, and feeble; tongue a little moist at the tip and edges; not so red as in some other cases; delirious, but answers questions rationally; cephalalgia; says he cannot pass his urine, but has a constant desire to do so.

HISTORY.—This patient was attacked with fever at Wilmington, (N. C.) about three weeks before his admission; he took two doses of oil on the passage to New-York, which was all the remedial treatment he had before coming to the hospital; two days before admission he began to suffer pain in the abdomen, from that time he had no passage from his bowels; from the day he was first taken ill he could not raise himself up in bed; out of his mind every evening; thirsty.

The patient died the morning following his admission; a few hours before death he complained of great pain in the lower part of the abdomen, with a constant desire to pass water; the catheter was introduced but no water followed.

AUTOPSY.—Eight hours after death. The abdomen when laid open, presented the most extensive and acute inflammation I ever witnessed; the *peritoneum* covering all the viscera and lining the parietes of the abdomen was of a bright scarlet red colour; the most minute inspection could not detect a spot as large as a pea, free from inflammation; where it passed over the bladder it was somewhat ulcerated; the coats of this organ becoming involved in the general inflammation, accounted for the frequent desire to pass water before death; no urine was found in the bladder, and but a small quantity in the kidneys.

The peritoneum, lining the intestines, was covered with a layer of lymph a quarter of an inch thick, and when scraped up with the palm of the hand filled a pint measure; about a quart of serosity and some fœcal matter in the lower part of the peritoneal cavity.

The intestines were now examined; they were distended with gas, the colon containing black, thick, bilious, matter and the rectum a yellowish matter.

No inflammation in the small intestines except in the ileum, where about thirty ulcers were counted. Near the ileo-cœcal valve the isolated glands were ulcerated, forming regular, round, excavated ulcers; one of them the size of a large pea had ulcerated through the intestine allowing the escape of the fœces which were found in the cavity of the peritoneum. This ulcer was two inches from the cœcal valve. Extending up the ileum were patches of large, elevated, rounded ulcers, occupying the *glands of Peyer;* many of them were an inch broad, composed of several smaller ulcers running into each other; the handle of the scalpel could easily be passed under these ulcers.

The ascending portion of the colon was inflamed but not ulcerated; *liver* enlarged and softened; *spleen* softened but not enlarged; *mesenteric* glands enlarged but not softened.

REMARKS. — The two preceding cases present examples of the characteristic lesion of typhoid fever. In the first case the ulcerations in the ilium were larger and more numerous than in the second, though in the second case, an ulcer had extended through all the coats of the intestine, so as to admit of the escape of fœces. In both cases, and in all the cases of recovery, tympanitis was recognised by the great resonance on percussion; but a remarkable fact to be noticed in all the cases is that the severity of the abdominal symptoms was not equal to the extent of the lesions observed after death; the pain upon pressure is no more than that observed in remittent fever, when no ulcerations exist. Though there is no direct proportion between the severity of the symptoms and the extent of the lesion of these *glands of Peyer*, still we may calculate its presence with some degree of certainty.

INTERMITTENT FEVER.

I shall not attempt to give the history of the forty-seven cases of intermittent fever admitted during the five months embraced in this report. It will be sufficient to remark that thirty of these cases occurred in Irish labourers employed in the immediate neighbourhood of the city; fifteen were sailors arriving with the disease from different ports; only two patients were attacked with the disease while residing in the city. More than two-thirds of the patients had been attacked before—some of them five or six times. The prevailing type of the disease was the tertian; there were but three patients affected with the quotidian type.

The treatment was the same in every case, and its success uniform, for no patient had more than two paroxysms of the fever after commencing it. Immediately after admission the patient was ordered a cathartic, commonly rhubarb and calomel; and the following day he commenced taking one grain of the sulphate of quinine every second hour, until just before the expected paroxysm, when he was ordered to take from 3 to 5 grains. If this treatment did not arrest the paroxysm, it was sure to mitigate its severity, and lessen its duration. The same treatment was repeated the following day. When the paroxysms were arrested, the patient was directed to take half a grain of the quinine every second hour for fourteen days. If this medicine was discontinued before this period, the disease would return in some instances, but the paroxysms would soon cease again on resuming its use.

Report of Cases illustrating the Treatment of FRACTURES *of the* EXTREMITIES *by the Immovable Apparatus.* By JOHN S. HEARD, M.D., and JAMES B. GOULD, M.D., late House Surgeons of the New-York Hospital.

IT has long been a desideratum with surgeons to possess some apparatus for the treatment of fractures, more particularly of the lower extremity, which should combine the qualities of perfect adaptation to the limb, easy application, strength and lightness. In order to meet this want, the ingenuity of the profession has invented a variety of apparatus, but no one seems to unite so many advantages as the Immovable Apparatus of M. Suetïn of Brussels: we say of M. Suetïn,—for, although the principle of the apparatus may claim a higher antiquity,—to him belongs the credit of rescuing it from the oblivion to which it was so unworthily consigned, and of reducing it to its present state of perfection. This apparatus consists of the following parts, viz:—1st. 5 or 6 rollers 6½ yards in length and 3 inches in breadth. 2d. 2 or more pasteboard splints. 3d. a quantity of starch, such as is used by washerwomen.

The method of applying this apparatus will be more readily understood by selecting a case of simple fracture of the leg, and detailing the various steps of the process.

The bones being reduced and held in coaptation, a roller is applied from the toes up to the knee; this is first to be thoroughly saturated with the starch, by means of a brush, or, what is better, the hands, rubbing it well in; the surface is then coated with a thick layer of the starch; a second roller is now applied and treated in a similar manner with the starch. Two splints of paste-board of sufficient length to extend from the knee to the sole of the foot, (under which they should pass) are to be moistened with warm water, and then saturated and coated with the starch; these are now to be applied, one on either side of the limb, being accurately moulded to the parts. Over these splints a third and fourth bandage is to be applied, saturated with the starch like the two preceding.* The limb is now to be laid on the heel, on a pillow, and the apparatus allowed to dry and become hard, which it usually does in the course of from 48 to 72 hours: when this has taken place the patient may walk about with the aid of crutches.

The splints should be made of that kind of paste-board denominated *binder's board*, and should be cut out with a strong pair of scissors; they should have foot pieces extending from the heel to the toes; they should, also, have small triangular pieces cut out on the sides, one inch apart; these splints should nearly, but not quite, encircle the limb,—an interspace being left in order that if the apparatus should become loose from the subsidence of the swelling, or any other cause, they may be approximated by a bandage firmly applied over the whole apparatus. It may sometimes be necessary to apply two sets of splints, in which case the outer set need extend no lower than the ankle.

We shall now enumerate some of the advantages which this method of treating fractures possesses over all others:—1st. Its accurate adaptation to the limb. 2d. Its lightness combined with strength. 3d. Its cheapness and the facility with which it can be obtained. 4th. Its easy application. 5th. Its comfort to the patient. 6th. The exemption it affords the patient from ulceration of the heel, by no means an uncommon occurrence with the ordinary fracture box. 7th. The freedom of motion it allows the patient; his health not suffering from confinement to bed, and to one position for from 6 to 8 weeks, or even a longer period. 8th. It obviates the necessity of those repeated adjustments so necessary in other methods. The surgeon may rest satisfied that all will go right.

These advantages are certainly sufficient to give the preference to this apparatus over all others now in use. There are certain cautions to be observed in the application of this apparatus; if there be much swelling with heat and pain in the limb, it will be best to delay the application until these shall have, in a measure, subsided; that passive swelling, so to speak, which remains after the subsidence of the inflammation being readily removed by the apparatus. In applying the bandages, great care should be taken to have the pressure equable from the toes to the knee.

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* Sometimes it may be well to apply one or two more bandages.

We shall now give some cases of fracture, illustrating this method of treatment: —

No. 1. *Simple fracture of the leg.* — WILLIAM STIVISON, born in Ireland, aged 28, a labourer, was admitted into ward No. 2, of the New-York Hospital, December 1st, 1838, with fracture of both bones of the leg about the middle; the injury was the result of a blow about an hour previous to admission. The limb was placed on the heel on a pillow, and lot. evap. applied.

December 7th. The swelling having subsided, the immovable apparatus was applied.

December 10th. Apparatus dry and firm; is walking about with crutches.

January 12th. Apparatus removed; union firm; no deformity.

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No. 2. *Simple fracture of the leg.* — JOHN GILLEN, born in Ireland, aged 30, a labourer, was admitted into Ward No. 14, of the New-York Hospital, Dec. 3d. 1838, with a simple fracture of both bones of the leg, about 3 inches above the ankle joint; he had, a few hours before his admission while intoxicated, fallen down into a cellar. The limb was placed in a double inclined plane, and lot. evap. applied.

December 8th. Swelling in a great measure subsided; immovable apparatus applied.

December 11th. Apparatus hard and dry; walks with the aid of crutches.

January 3d. Apparatus removed; union firm; no deformity.

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Attending Surgeon.

No. 3. *Simple fracture of the arm.* — EDWARD WALLIS, born in Ireland, aged 30, a cartman, was admitted into Ward No. 10, New-York Hospital, December 6th, 1838. Ten days previous to his admission, in endeavouring to stop his horse that had run away, he was thrown down, and the wheel, passing over his right arm, fractured the os brachii about its middle; splints and bandages had been applied, but the pressure seems to have been unequal; he complains of great pain, and upon removing them after admission, there was found considerable tumefaction, especially at the elbow; the arm was laid in a flexed position upon a pillow, and lot. evap. applied.

December 10th. Swelling has mostly subsided; immovable apparatus applied.

January 8th. Apparatus removed; union perfect; elbow stiff; passive motion ordered.

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No. 4. Compound fracture with delirium tremens.—CHARLES MILLER, born in New-York, aged 37, a seaman, was admitted into Ward No. 3, Marine Department, December 15th, 1838. About an hour previous to admission his right leg became entangled in machinery, by which a compound comminuted fracture of the tibia and a simple fracture of the fibula were produced; the seat of fracture being at the junction of the lower and middle third of the leg; there was a lacerated wound of the integuments about 2 inches in extent, through which the lower end of the tibia protruded for 2 inches; the bones were reduced, and the wound dressed with adhesive straps and lint; the leg was now extended upon a straight splint, the thigh being firmly lashed to the upper part, and the foot secured to the foot piece; lot. evap. applied.

This man was addicted to the intemperate use of ardent spirits, and was soon attacked with symptoms of delirium tremens, and in his raving threw the limb and splint violently about, so that it was almost impossible to keep any kind of splint attached, or the bones *in situ;*—with a view to accomplish these two ends, Amesbury's apparatus was applied, but it was found impossible to keep it on from the violence of the patient. His health had now suffered materially, and his heel had ulcerated from the pressure requisite to keep the limb attached to the splint; the wound had become unhealthy and was sloughing; the ends of the tibia were also necrosed.

January 9th. It being doubtful whether the life of the patient, much less his limb, could be saved, it was determined to apply the starched apparatus.

The wound was dressed with lint smeared with ung. bals. Peru.; over this was laid a piece of sheet lead, 2 sets of splints and 6 bandages were applied.

January 12th. Apparatus dry, a piece was cut out over the ulcerated heel, in order that daily dressing might be made; he now walks about, and thus the farther spread of his bed sores is stayed; under a generous and stimulating diet, his health improved, and all traces of delirium vanished; says he feels decidedly comfortable since the application of the apparatus.

February 6th. The apparatus having become saturated with the profuse discharge from the wound and extremely offensive, was to day removed; the limb was found in the following condition: union had taken place, but was not firm; the wound is healthy and contracted to about one third its former size, and is covered with exuberant granulations; a new set of the apparatus was applied, the ulcer having been freely brushed over with nit. argent: when the apparatus had become dry, a small piece was cut out over the ulcer in front, in order to allow the pus to drain off.

March 2d. Apparatus again removed on account of the sheet lead having worked down upon the instep, and there causing irritation; the union was found to be firm, and the ulcer connected with the fracture all but healed; several small pieces of bone were removed; ulcer on heel healed for some time; for safety's sake, 2 side splints of Amesbury's apparatus were applied to the leg.

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No. 5. Simple fracture of the leg.—Mary McCready, born in Ireland, aged 30, was admitted into Ward No. 5, New-York Hospital, December 20th, 1838, having fallen from a ladder a few hours previous to her admission, and fractured her right leg, about 2 inches above the ankle joint. There was considerable swelling with pain in the limb; it was placed in a fracture box, and lot. evap. cum tinct. opii applied.

December 25th. The swelling has subsided in a great measure and the pain ceased; starched apparatus applied, and as soon as it became dry and hard she walked with crutches.

January 22d. Apparatus removed; union firm; no deformity; some swelling; limbs bandaged.

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Attending Surgeon.

No. 6. Simple fracture of the leg.—Maria Smith, born in Ireland, aged 30, was admitted into Ward No. 5, New-York Hospital, Dec. 26th, 1838, having just fallen down on the ice and fractured her right leg about the junction of the lower and middle third. There was considerable pain in the limb, but not much swelling; it was placed on a pillow on the heel, and lot. evap. cum tinct. opii applied.

December 30th. Pain has ceased; some swelling; starched apparatus applied.

February 6th. Apparatus removed; union perfect; no deformity.

Alexander H. Stevens, M.D.
John Kearney Rodgers, M.D.
Attending Surgeons.

No. 7. Compound fracture of the leg.—Henry A. Adams, born in New-York, aged 12, was admitted into Ward No. 10, New-York Hospital, January 2d, 1839. Two hours prior to his admission, he was run over by a hose-cart and his right leg fractured by the wheel passing over it. There was a compound fracture of the fibula, the external wound being, however, slight; and a simple fracture of the tibia at its middle. Although there was but little swelling, he complained of great pain; the limb was placed in a fracture-box, and compresses were applied, wet with tinct. opii.

January 3d. Twenty-two hours after the receipt of the injury, the immovable apparatus was applied, giving immediate relief from pain; in 48 hours he was walking about by the aid of crutches.

January 31st. To-day, removed the apparatus; the union is perfect.

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No 8. Simple fracture of the leg.—Margaret Behean, born in Ireland, aged 36, was admitted into Ward No. 5, New-York Hospital, January 13th. This morning she fell down, and her left leg passed through a grating in the side-walk, by which it was fractured about two inches above the ankle. Some swelling and pain; the limb was placed upon a pillow on the heel, and lot. evap. cum tinct. opii applied.

Twelve hours after the injury, the limb being still somewhat swollen, the immovable apparatus was applied.

January 16th. Complaining to-day of severe pain; removed the apparatus; slight vesications; apparatus re-applied; after this became dry; she had no pain.

March 3d. Apparatus removed; union firm.

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No. 9. Simple fracture of the leg. — CHARLES HEALY, born in Ireland, aged 52, a labourer, was admitted into Ward No. 2, New-York Hospital, Jan. 30th, 1839. About a year ago, this man fell and fractured his left leg just below the middle; this united with some deformity, the lower end of the upper fragment projecting so as to be quite prominent. On the day of his admission, he fell down stairs, and again fractured his leg just below the seat of the old fracture; the limb was placed on a pillow, on the heel.

January 31st. Immovable apparatus applied, a fold of lint being placed just below the projection.

March 14th. Apparatus removed; union not firm; apparatus reapplied.

March 28th. Again removed apparatus; union is more perfect.

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No. 10. Simple fracture of the tibia. — JOHN YOUNG, born in New-York, aged 19, a seaman, was admitted into Ward No. 5, Marine Department, January 31st, with a simple fracture of the tibia about its middle, caused by his leg being jammed between the dock and a vessel, two days previous to his admission. There was great pain and considerable swelling; limb laid on the side on a pillow, and warm emollient poultices applied.

February 6th. The immovable apparatus was applied.

March 3d. Apparatus removed; union perfect.

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No. 11. Simple fracture of the fibula. — WM. LATE, born in Maine, aged 34, a seaman, was admitted into Ward No. 3, Marine Department, February 4th, 1839. Two hours previous, a bale of cotton fell on his left leg and fractured his fibula about an inch above the malleolus externus; placed the limb on the side on a pillow, and applied lot. evap.

February 6th. Immovable apparatus applied.

March 4th. Apparatus removed; union firm.

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No. 12. *Simple fracture of the leg.*—JOHN DERRICK, born in Ireland, aged 18, a labourer, was admitted into Ward No. 9, New-York Hospital, Feb. 8th. Three days before his admission, while assisting at a fire, he was knocked down, and his left leg fractured at the junction of the lower and middle third; there was some swelling and displacement; the limb was placed on a pillow, and lot. evap. applied.

February 18th. Immovable apparatus applied.

March 21st. Apparatus removed; union perfect.

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No. 13. *Simple fracture of the leg.*—MICHAEL BOYCE, born in Ireland, aged 28, a labourer, was admitted into Ward No. 2, New-York Hospital, Feb. 18th. Three days before, a bank of earth caved in and buried him beneath it; by this accident his right leg was fractured about the middle; placed the limb, which was slightly swollen, on a pillow.

February 19th. Immovable apparatus applied.

March 29th. Apparatus removed; union perfect.

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No. 14. *Simple fracture of the leg.*—THEODORE SCHIEFFIN, born in New-York, aged 32, a seaman, was admitted into Ward No. 3, Marine Department, February 23d, with a fracture of both bones of the right leg, about the middle; the injury was caused by a fall a few hours previous; placed the limb on a pillow.

February 24th. Immovable apparatus applied.

April 1st. Apparatus removed; union not very firm; apparatus reapplied.

April 15th. Apparatus again removed; union is perfect.

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Researches on the Tubercular Disease of the Bones. By A. NELATON, M.D. Translated from the French, by CHARLES R. KING, M.D.

THE tubercular disease of the bones, known in almost all times by some physicians, but unsuspected by the greater number, is one of those diseases of which we would in vain seek a description in the dogmatic treatises on surgery. Indicated rather than described, under twenty different names, and confounded with most of the alterations of the bony tissue, most especially with caries, it has been sought to be explained by the theories of each period, rather than made the object of researches calculated to discover its essential character.

What has been done by Bayle and Laennec for the lungs, (the description of the natural history of tubercular developement,) remains almost entirely to be done for the bony tissue. It is this point of the pathology of the bone that I have sought to treat, specially, in this paper.

In the bones, as in the lungs, the tubercular affection presents itself under two very different forms; sometimes, the tubercular matter is found collected in one or more nuclei, hollowed in the thickness of the bony tissue; (*encysted tubercles;*) sometimes it is infiltrated into the cellules of the spongy tissue; (*tubercular infiltration.*) It will be seen, hereafter, that this distinction of two varieties, is a capital point in the history of the disease under consideration; so that without a special study of each of these forms, it is impossible to comprehend the principal phenomena it presents.

These two forms offer anatomical peculiarities, which may serve to distinguish them at all periods of the disease, so that it is always easy, whatever the degree of alteration in the tissues, to pronounce upon the nature of the organic lesions, and to determine the variety.

Section 1st. FIRST FORM.—*Encysted Tubercles.* This variety alone has occupied the attention of authors.

When we examine a crude tubercle of the bony tissue, at the period of full developement, we observe the following: in the midst of the bony tissue, generally in the cellular structure, a cavity presents itself, enclosed on all sides, and containing an opaque yellowish-white matter, very nearly resembling putty. This is inelastic, as superficial depressions made with the finger do not disappear when pressure is removed; it contains not a particle of bone, (unless some complication exists,) and presents, sometimes, streaks of a white or slightly grayish colour; it is not formed of concentric layers, is suspended without dissolving in water, so as to present flocculi floating at first in the liquid, but soon sinking to the bottom of the vessel. I have been unable to ascertain, satisfactorily, whether or not this matter be perfectly similar, in chemical composition, with that of tubercles in other organs, as the lungs, brain, &c.; whether it contains a larger proportion of phosphate of lime.

This matter is contained in a cyst, which lines all the irregularities of the tubercular cavity. The cyst is not thick, (about a quarter of a line,) is at first gelatinous and transparent, but in the end becomes very much more resistant. Examined internally, after its contents are removed, it is white, irregular, flocculent, and combined, as it were, with a portion of the tubercular matter, which cannot be removed without difficulty. Externally, it is often of a rose colour, occasioned by a vascular net-work upon its surface, the number of the vessels appearing always in proportion to the degree of softening of the tubercle. From this net-work, a number of vascular prolongations penetrate into the cells of the bony tissue, establishing an adherence, easily destroyed, between the cyst and the walls of the cavity containing it.

After several days maceration in water or alcohol, the cyst is found to be formed of white, fibrous, inextensible filaments, interlaced in every direction, as it were, felted together, and representing somewhat the texture of articular capsules.

The excavation formed in the substance of the bone by the accidental tubercular production, may be limited on all sides by bony walls; this is the most simple, as well as most frequent disposition, at the commencement of the disease. The cavity is then more or less regularly round, sometimes anfractuous, with several other cavities or appendices opening into the central one.

Its surface is, in general, rather smooth; sometimes a number of extremely delicate bony spiculæ, almost all parallel, are observed, directed towards the centre of the cavity, and recalling the disposition of the papillæ on the tongues of certain carnivorous animals, as the cat, the tiger, &c.; while at other times, the parietes are formed by heterogeneous tissues, such as the bony, fibrous, and cartilaginous. This is the case, when, in the course of its developement, the tubercule has reached the surface of the bone. The cavity of the tubercle, at the point corresponding to the perforation of the external layer, is formed by the hypertrophied periosteum, intimately adhering to the cyst. When the tubercle developes itself in the neighbourhood of the cartilaginous partition, separating the epiphyses from the diaphysis before the junction of these two, this partition may be perforated, a condition quite often observed. We find, then, near the middle of the excavation, a cartilaginous ring strongly attached to the envelope of the accidental production. We shall have occasion, hereafter, to cite several examples of an analogous disposition.

No remarkable change is seen in the bony tissue surrounding the tubercular excavation; a slight injection only is noticed, forming a ring about a line in depth, a disposition that can only be well ascertained upon the epiphyses of the long bones, and in adults alone; for in children, the spongy tissue entering into the formation of all the bones of the skeleton, and in adults, all that we meet with in the bones of the trunk, present in the normal condition, an intensely red colour. Besides, this tissue preserves its normal density and texture. A careful examination of the disposition of the bony fibres or columns near the parietes of the cavity, shows that these fibres have preserved their position; that those, which by their direction should traverse the cavity, are suddenly interrupted at its surface; in a word, we have before us an excavation, not the result of the displacement of the surrounding tissue, but of an actual loss of substance, such as would be occasioned by a cutting instrument.

The cartilaginous and fibrous tissues encountered by the tubercle in its developement, are liable to a similar destruction. I have in my possession a specimen representing an excavation, formed at the expense of the third and fourth lumbar vertebræ; it was filled with crude tubercular matter, contained in a cyst;

the fibro-cartilage separating these two vertebræ, corresponds nearly to the middle of the cavity in height; its two posterior thirds have entirely disappeared, while the anterior third is entire, and has preserved its pearl-white aspect; it is formed of fibres which all stop at the surface of the cyst, and their extremities are all seen as clearly interrupted there, as if they had been cut with a very sharp instrument.

These tubercular collections vary in extent from two or three, to fifteen or twenty lines in diameter. They are not, in general, very numerous, it being more common to meet with one rather large cavity, than several of smaller dimensions.

We will now examine the modifications of the surrounding parts occasioned by the presence of a tubercle. When a tubercle is developed in a bone, the periosteum and superficial layers of the bone undergo important changes; the periosteum becomes more vascular, as does also the surface of the bone, in the part nearest to the accidental formation; this increased vascularity is soon followed by a deposition of new bony layers, which accumulate successively, and are always easily distinguished from the old bone, as they never present the fibrous appearance observed in the primitive bony tissue; indeed, this peculiarity of the bony depositions does not belong exclusively to the affection under consideration. It is the especial characteristic of all bony tissues of secondary formation, at least, for several years after its developement; as for instance, in callus, in bones replacing eliminated sequestra, and in bony vegetations surrounding a diseased articulation. These depositions of bone are only formed in parts covered by periosteum: thus, when a tubercle is developed in the epiphyses of a long bone, the humerus, for example, the bony incrustations cease at the circumference of that portion of the bone covered by the diarthrodial cartilage; and to anticipate a little, this is one of the reasons, why tubercles developed near the extremity of the bone, open more easily into the articular cavity, than upon the surface of the bone, whose periphery seems, as it were, to retire in proportion as the tubercle grows; for after having passed through all the primitive osseous tissue, it must still traverse the layers of secondary formation, while, towards the articulation, no analogous obstacle is encountered.

It is by the deposition of these new bony layers, that the growth of the extremities of the bones takes place. Nothing is more easy than to ascertain this fact; and it is difficult to understand how Mr. Russell, cited by S. Cooper, can have said, that he had never seen himself, nor had any one ever shown him in white swelling, the extremity of a bone more voluminous than that of the corresponding bone on the opposite side.

Such is the tubercular affection indicated by *Traugott Gerber, Frederick Haacke, Delpech, and M. Nichet.** But is it not possible, to recognise anatomically, this lesion before it has reached this degree of developement, to perceive the point of departure of the organic alteration, or, so to speak, the elementary lesion? In a soft spongy tissue like the lungs, where simple pressure with the hand will indicate to us a more resisting spot, and thus direct our researches, it is easy to recognise the first rudiments of the tubercular affection; this, however, is not the case with the bones, which conceal within them the morbid alterations and thus protect them from our means of investigation. Besides, we can easily conceive that anatomical lesions of some delicacy, contained within a structure that can only be divided by a saw or rather dull instruments, may be easily destroyed by the very manœuvre employed in searching for them. The following precautions, should, therefore, be taken, when we desire to ascertain the presence of incipient tubercles in a bone.

Having removed the periosteum, observe if the surface presents some points more vascular than others, forming spots marbled with violet; see, at the same time, if there is not some prominence, no matter how slight, changing the natural shape of the bone. If either of these conditions are met with, remove by means of a saw the thickest shell of the bone, and then progressively destroy the cellular structure with the extremity of a strong scalpel, so as to carve out, as it were, the tissue around the organic lesion.

By following this process, I have been enabled several times to ascertain, that tubercles in the bones, as those in the lungs, have their commencement in the *semi-transparent gray granulation* described by *Laennec, Louis, &c.* I have in my possession, a specimen of the superior extremity of the femur, offering a beautiful example of these tubercular granulations. In the centre of the spongy tissue occupying the base of the great trochanter, is a mass six or seven lines in extent in every direction, formed by the conjunction of small pearly granulations, half a line in diameter, and of a white opaline colour. Several of these granulations, especially those situated at the periphery, are surrounded by a small bony shell, so delicate and transparent, that at first sight it is not perceived; it is only recognised by its resistance to the point of a needle, with which an attempt is made to pierce it. Some of them have in their centre a yellow opaque point, indicating a commencing transformation. In the interstices which separate them, some very delicate vessels creep along to join themselves with those of the surrounding bony tissue, upon which a very apparent injection is observed. The surface of the bone, at the point nearest this tubercular deposit, is covered by a bony layer of secondary formation; and presents besides, an evident increase of vascularity.

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* Memoir sur la Nature et la Traitment, du Mal Vertébral de Pott. Par M. Nichet, Chirugien de l' Hôpital de Charité de Lyon. 1835.

When we consider that these granulations are perfectly identical with the gray granulations, generally regarded as the rudiments of pulmonary tubercles; that they are ordinarily met with in bones which, in other portions of their extent, offer veritable tubercles, and in subjects, whose lungs also contain them; and that they are not observed under opposite circumstances, we shall be authorized, I think, to conclude that *in the bones as in the lungs, the crude tubercle proceeds from the gray granulation.*

The bony partition that separates each of these granulations, thinned at first by absorption, soon entirely disappears; a cyst analogous to that which forms around every foreign body enclosed within our tissues, envelopes the whole mass, which then presents all the characteristics already indicated in treating of the crude tubercle. Having reached this stage, the tubercle continues to increase; I have never remarked that its developement was arrested; it is only retarded by the difference of density, or nature of the tissues encountered. In a short time the matter contained in the cyst becomes softened; this softening, proceeding sometimes regularly from the centre to the circumference, sometimes from a point in the circumference, thence extending throughout the mass. The collection of tubercular matter then acts as a veritable abscess; it follows the cellular interstices of the organ until it arrives under the integuments, which become inflamed, are then perforated, and allow the discharge of a grumous liquid, consisting of white cheesy floculi, suspended in a turbid serum. When all this matter is evacuated, there remains a fistula, giving passage, daily, to a variable quantity of sero-purulent liquid.

One circumstance, however, must be borne in mind; that the bottom of the fistula corresponds with the tubercular excavation in the tissue of the bone, and that the parietes of this excavation, supported on all sides by a solid structure, cannot contract themselves, nor come in contact with each other, as the soft and pliable walls of an abscess formed in other tissues; a disposition which, as it opposes the coming together of the parietes of the cavity, tends to keep up the discharge from the fistulous opening.

An action essentially reparative then commences, tending to fill up the void which has been formed in the interior of the bone; the cyst that enveloped the tubercular matter, and whose vascularity has gradually increased during the process of softening, becomes considerably enlarged, and is so thickened and hypertrophied as, at length, to fill completely the cavity it had lined; it then presents the most marked analogy of structure, with the fleshy granulations upon the surface of a wound; a large number of extremely delicate vessels, nearly all parallel, are observed on it converging towards the centre of the cavity. This tissue, like that of cicatrices, gradually loses its vascularity, and in the end, presents, in every respect, the appearance of fibrous tissue, (*tissu fibreux inodulaire.*) Such is the most favourable termination of the disease under consideration: but to obtain it, the reunion of certain conditions is indispensable. These may be all summed up in the following: the tubercular matter must find an easy outlet for its evacuation. Thus, all other things being equal, the disease will have the greater tendency to this termination, in proportion as its primitive seat shall be nearer to the cutaneous surface. In fact, it is very often observed in cases of tubercles developed in the phalanges, and in the bones of the metacarpus and metatarsus.

If, on the other hand, the tubercular matter is compelled, in order to reach the surface, to traverse a considerable space, it progressively accumulates; a cellular fibrous cyst, resembling a flask with its neck accurately fitted to the perforation in the bone, receives all the tubercular matter secreted, and prevents its diffusion through the cellular tissues. No more accurate idea of the aspect of these cysts, thus suspended by a pedicle to the bone, could be given, than by comparing them to large leeches gorged with blood, and attached by their mouths to the surface of the skin. Indeed this comparison, which might perhaps seem a little extravagant, is so true, that it very rarely fails to present itself to the minds of all to whom these cysts are shown.

Not unfrequently, we meet with tubercular pouches, extending from the dorsal region down to the small trochanter, limited below by the insertion of the psoas and iliacus muscles. In such cases, they present alternate contractions and dilatations, accordingly as they are more or less compressed by the surrounding parts; sometimes, when the tubercular matter is slowly secreted, and especially when its formation is suspended, these contractions become more and more marked; the canal which traversed them at first, contracts, and is finally obliterated entirely, so as to isolate a portion of the cavity from its point of origin. This tubercular mass might then appear to have been always independent of the disease of the bone, but a little examination will easily detect the contrary. In all such cases that have come under my observation, I have always found these tubercular masses attached to the principal cavity by a fibrous cord, occupying the place of the canal, which had communicated between them.

These depositions may be entirely absorbed, as the fibrinous collections after extravasations of blood are seen to be removed.

They may cause a suppuration in the parietes of the cyst and the surrounding parts, and a true *caries*.

New tubercles are sometimes observed to develope themselves, and to grow in the very parietes of the tubercular cyst.

To recapitulate: the essential characteristic of this variety of tubercular disease is to produce in the bones excavations and destruction of tissues, without leaving any remains either of the bones, or of the cartilages, &c. In what way is this destruction accomplished? This question touches too closely upon the search after first causes, ever to be decided in a rigorous manner. We can only point out the principal circumstances attendant on this work of destruction, without establishing by conjecture its intimate nature. *M. Nichet* expresses himself on this point, as follows: "There is then nothing observed there but a wearing away, (*usure*,) an erosion of the vertebræ by a foreign body, and that foreign body is the scrofulous tubercle. . . . . . This destruction seems to have been occasioned without inflammation, and by the mere fact of the position of the tubercular matter, and by the pressure exerted by it upon the bone."

This destruction is analogous to that occasioned in a bone by the constant pressure of a tumour developed in its neighbourhood, and to the depression formed by the arteries, in a normal state, upon the bones; such as that observed upon the femur along the track of the crural artery, upon the bones of the cranium over the meningeal arteries, and upon the thoracic portion of the spinal column in contact with the aorta.*

The arterial furrows, says Meckel, are manifestly occasioned by the continual pulsation of the vessel, which, on the one hand, render absorption more active, and on the other, prevent the deposition of new nutritious matter. (Meckel, Anat. Gen. vol. i. p. 236.)

Section II.—SECOND FORM. *Tubercular Infiltration.* *M. Nichet* has hinted at this form of tubercular disease, but has not investigated it in a special manner; he merely says, in some of his observations, that a cheesy looking matter appeared infiltrated into the cells of the spongy tissue, without seeking to ascertain what series of phenomena resulted from this infiltration, either in its relation with pathological anatomy, or in connection with local or functional symptoms, or as regards the therapeutic indications furnished by it. Everywhere in his memoir, this variety of the tubercular disease of the bones is confounded with that of which I have just exposed the characteristic signs. This is indeed, in my opinion, the only capital reproach that can be made against the work of *M. Nichet;* it is the source of several inaccurate interpretations of facts observed and of some of the errors recorded in his conclusions.

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* I am aware that this mode of accounting for the lateral curvature of the vertebral column is not admitted by all, particularly since the explanation of it by *Bichat*, and the confirmation which *Beclard* appears to have given to this latter view, in calling attention to the alleged fact, that in left-handed persons the lateral curvature is transposed. Notwithstanding all the circumspection inspired by such respectable authorities, I cannot avoid remarking, that if this lateral inclination resulted from the habit of inclining the vertebral column to the left in raising burthens with the right arm, the curvature would be found precisely at the point where the column is bent during this movement, that is, in the lumbar region, and not in the dorsal, which enjoys but very slight movements of lateral flexion. If we recollect, besides, that *M. Cruveilhier* says that he has met with this lateral inclination in the fœtus before the full time, and if we consider the want of symmetry in the dorsal vertebræ, corresponding to the most curved portion of the column, there can be no hesitation, I think, in regarding the pressure occasioned by the aorta as the cause of this curvature.

The tubercular infiltration may present itself alone, or connected with the first variety I have described, but never succeeds it; it is met with under two different conditions, which may be considered as two degrees of the same form, and designated by the names *semi-transparent infiltration*, and *puriform*, or *opaque infiltration.*

The semi-transparent infiltration presents itself under the aspect of gray, opaline, slightly rosy, and semi-transparent spots, formed by the deposition in the cells of the bone of a substance analogous in appearance to encephaloid matter; and, indeed, I have several times seen this condition of the bones, and especially of the bodies of the vertebræ, mistaken for a cancerous degeneration. The tints observed in these spots, do not pass insensibly into that of the bony tissue around them; their circumference is clearly defined by a sudden change of colour. A stream of water directed into the cells of the spongy structure, does not force out the infiltrated matter, which adheres firmly to the lamina of that tissue. Such, however, is not, as we shall see, the case at a later period of the disease. Examined with a lens, these spots exhibit in their interior very minute blood-vessels traversing it in every direction, and sometimes surrounded by a well marked circle of injection. No change is observed in the density of the bony tissue, which is neither augmented nor diminished. If we examine a bone thus infiltrated, after having macerated it, in order to remove the matter obstructing its cells, or after having burned it upon live coals, to remove the bony network properly so called, no remarkable change is noticed in the texture of the bone, and it would be impossible then, even to suspect the disease which had been recognised in the bone before maceration.

To the semi-transparent infiltration succeeds the puriform;—this is distinguished from the preceding: 1st, by the dull yellow tint of the infiltrated portions; 2d, by the absence of blood-vessels; 3d, by the interstitial hypertrophy of the bony tissues. Let us examine separately each of these three points.

1st. The matter infiltrated into the cells of the bone, is of a pale yellow colour, and perfectly opaque; at first rather firm, it gradually softens and becomes completely puriform; in this condition it may be driven out by a stream of water directed into the cells of the bones. Besides, the spots of infiltrated matter are as well defined as in the preceding case. This condition is generally confounded with caries.

2d. Absence of vascularity. I have never been able, even with the assistance of a powerful lens, to detect a single blood-vessel traversing one of the opaque yellow spots. It is always impossible to cause the issue of minute drops of blood visible even through a lens, by compressing the neighbouring tissue, so as to force back the blood in the vessels towards the infiltrated portion. This absence of vascularity is one of the most important facts to recollect, for it will serve to explain several capital phenomena, hitherto passed over in the history of the tubercular disease of the bones.

3d. We have seen, that in the first period of the disease, the texture of the bone was not changed in an appreciable manner; such is not the case in the puriform infiltration. The tissue of the bone is in this case modified in a remarkable manner; it has undergone a hypertrophy which may be called interstitial, for there is no increase in the volume of the bone. The lamina composing the spongy structure are alone hypertrophied, and the cells of which they are the boundaries, become contracted and almost entirely obliterated. The tissue thus modified, resembles closely the compact tissue in its physical qualities, especially in its density. This hardening, like ivory, (*eburnation*,) of the cellular structure, has been noted in several observations by *M. Nichet*, and I confess it was not without some surprise, that, after having read these observations, I saw the following, among his conclusions, in the second part of his memoir: "At other times, but more rarely, the tubercular matter is found spread in the small cells of the spongy tissue, *which has undergone no other change* than a *diminution of consistence.*"

Boyer had also noticed this hardening of the bony tissue, but was unable to account for it. He says, in treating of the pathological anatomy of white swellings: "It is deserving of remark, that there are sometimes found in the midst of this distention portions of bone which have acquired the colour and hardness of ivory." (*Traité des Maladies Chir*. vol iv. p. 499.)

These hardened portions were nothing else than fragments which had been affected with infiltration before being separated from the rest of the bone.

It is seen that I differ entirely from *M. Nichet;* nevertheless, I am the more decided upon this point, because having made my observations while *interne* at the Hôpital des Enfans Malades, in 1834, and having at that time arrived at an entirely different conclusion from that published by *M. Nichet,* in 1835, I have neglected none of the numerous opportunities presented to me, since this publication, to verify the side on which truth belongs, and I can affirm that I have not met with a single fact that does not sustain the proposition I have advanced. It sometimes happens, it is true, that in examining the bones of the foot or hand in cases of white-swelling of the ankle or wrist, some of these bones are found infiltrated with tubercular matter, and, at the same time, extremely friable. Upon directing a stream of water into the cells of the spongy tissues composing them, after a slight maceration, in order to dislodge the infiltrated tubercular matter, we find these bones of an extremely delicate texture. The partitions forming these tissues may be compared to the minute filaments composing the reticular tissues observed in the middle of the diaphyses of the bones of some large animals, as the ox, the horse, &c. Externally an exceedingly delicate layer alone remains, forming a shell of great brittleness, the weight of the bone not being a quarter of what it should be in the normal state; in a word, the bony structure seems to have become thinned, at the same time that it is filled with tubercular matter. But does this contradict what I have advanced respecting the condensation and interstitial hypertrophy of the bony tissue in cases of tubercular infiltration? I think not. The identity of alteration is merely apparent in this case; in the first instance, the infiltration forms the essential character of the disease; in the second, it is only a casual occurrence. In fact, a close examination will show us that the other bones of the tarsus or carpus, although without tubercular alteration, present the same rarefaction of tissues; it is therefore very probable that this rarefaction exists before the infiltration. If we now recollect that when a bone of spongy structure is deprived of its periosteum, of its cartilages, in a word, of its protecting envelope, while the cells of this tissue freely opened, are bathed in purulent matter, this matter is observed to infiltrate itself by a sort of capillary attraction into the meshes of that tissue; it will be granted, I think, that the same is the case with the tubercular infiltration under consideration, while this infiltration is the more easily accomplished as the spongy tissues, more rarefied, present larger pores.

But to return to the tubercular infiltration properly so called; what are the phenomena that are occasioned by it? Permit me to say here, by anticipation, that *the necessary consequence of every tubercular infiltration into a bone is a necrosis of the infiltrated tissue;* this proposition is based upon the following observations: 1st. When a bone is affected with a puriform tubercular infiltration, the infiltrated portion already presents, although it is not yet separated from the rest of the bone, all the characters of a true sequestrum. No vessel can be perceived in it; not a single indication of the continuance of vitality.—2d. These infiltrated portions are often found surrounded by a circle of elimination. 3d. It is very common to meet with portions of bone completely necrosed, true sequestra, at the same time that, in other portions of the same bone, an infiltration of tubercular matter is seen. 4th. If we examine the structure of these sequestra, we perceive that they do not represent exactly the texture of the bone from which they have been detached, and that the modification they manifest is exactly the same as that I have spoken of when there is as yet merely the simple tubercular infiltration, that is to say, an interstitial hypertrophy. We may therefore conclude, that before being struck with death, the necrosed tissue has been affected with this infiltration.

To deduce rigorously from these data the general proposition

I have above announced, it must be admitted that the *tubercular infiltration always ends in a purulent infiltration;* and I do not think that any person will refuse to admit this fact, especially, when the analogous termination of the tubercular infiltration of the lung is considered.

Is this necrosis the consequence of an inflammation of the bony tissues, as *Delpech* considered it? The analysis of the phenomena preceding it, would not warrant us in such a conclusion; for the infiltrated portion, at first slightly vascular, gradually loses its vascularity, the bony structure becomes more dense and the vessels disappear. This mortification of the bony tissue might, perhaps with more justness, be compared to that physiological phenomenon under whose influence the fall of the antlers of the stag occurs each year. For it is known, that by the mere developement of the base of each horn, the vessels entering into the antlers are at first compressed and then obliterated, so that all circulation in the bony tissues being arrested, the death and fall of the antlers is the consequence.

When a portion of the bone is thus struck with death, the separation takes place regularly, as in every other necrosis, presenting a series of phenomena, upon which I do not think it necessary to dwell; the disease consists then in the existence of a sequestrum contained in a cavity lined by the membrane of sequestration. This sequestrum, an actual foreign body, lodged in the midst of living tissues, may be the origin of all the symptoms attributed to necrosis, such as abscesses, fistulæ, copious suppurations, &c. &c.

At other times, although there is evident mortification of the bone, the separation is long delayed; 1st, because the cause of the necrosis, in this case, might almost be named chronic; 2d, the infiltration continuing to extend to the neighbouring parts, the limits between the healthy and diseased portions, are, as it were, changed each day, so that the circle of elimination cannot form itself.

To this circumstance is joined a phenomenon, which, although secondary, is nevertheless worthy of fixing our attention; I refer to the destruction of the infiltrated portion by an actual wearing away (*usure.*)

In fact, if the separation of the necrosed portion is delayed, the sequestrum remains intimately united to the extremity of the bone to which it belongs, and follows that bone in all its movements. If then, as quite often happens, two sequestra are thus placed in contact, by the destruction of the parts that separated them, a rubbing and reciprocal wearing away of the contiguous parts is the consequence. This view is confirmed by the form given to the parts subjected to this friction, and by the presence of a considerable quantity of bony particles, like sand, mingled with the tubercular matter contained in the cyst surrounding the fragments.

To complete the history of this form of tubercular disease, I will add, that it may be followed by the formation of the tubercular cysts described when speaking of the first form of this disease: still, as the infiltration is commonly diffused, and as it often attacks a considerable extent of bone, it is more rare to find cysts well defined and so well organised as in the first variety. A consecutive and accidental caries may also develope itself, not indeed in the tissue primitively infiltrated, but in the bony structure around this spot.

But it must be recollected that this caries, far from being a necessary consequence of the suppuration of the tubercle, is merely an accidental, and even rare occurrence; it is a mistake, therefore, always to connect together these two diseases, which have but very distinct analogies with each other.

The following table in which I have brought together the principal traits of each of these two forms of tubercular disease in their order of succession, will serve as a summary, of what has been previously said, and place in bold relief the differences between them.

ENCYSTED TUBERCLES.

1st. Semi-transparent gray granulations.
2d. Crude, opaque, encysted tubercle.
3d. Bony excavation, loss of substance in that tissue.
4th. Evacuation of the tubercular cavity.
6th. Hypertrophy of the cyst, obliteration of the cavity, recovery.

In this table I have represented only the most simple march of the disease, and the termination towards which it appears naturally to tend. But it has already been seen, and will be still more evident in the second part of this work, how local and accidental circumstances may interfere with this favourable result.

TUBERCULAR INFILTRATION.

1st. Semi-transparent gray infiltration.
2d. Interstitial hypertrophy of the bony tissue.
3d. Puriform infiltration.
4th. Necrosis of the infiltrated portion.
5th. Sequestration. Foreign body.

It may cause a little surprise to find in the preceding table the interstitial hypertrophy of the bony tissue placed between the semi-transparent gray infiltration, and the puriform; my intention is by to indicate that I consider the hypertrophy as an intermediate phenomenon between these two states, a phenomenon which manifests itself during the passage from the first to the second degree; for we have seen that this hypertrophy does not exist during the first period, while it cannot be admitted to take place during the second, when the bony tissue is deprived of its elements of nutrition and of life.

From what has been said, it is clear that the first variety of the tubercular disease could not be confounded with any other affection of the bony tissues; that it has its peculiar march and physiognomy, and affords but very distant analogies with the other organic lesions of this tissue. As to the second variety, it is not at all astonishing that it has been so long, and is still daily, confounded with caries; a mistake arising from the want of positive precision as to the anatomical character of caries, and from the fact that under this name very different pathological conditions are described. Besides, it must be allowed, that a portion of cellular tissue infiltrated with softened tubercular matter has, indeed, some resemblance in aspect to a carious portion; but it will always be easy to recognise the puriform tubercular infiltration by the interstitial hypertrophy, by the augmentation of solidity, and by the absence of vascularity; whilst in caries, properly so called, there is a rarefaction, a softening, and an increased vascularity of the bony tissue. Consequently, they are distinguished by organic conditions, not only differing from, but directly opposed to, each other. Caries always proceeds from the circumference to the centre of the bone; the tubercular disease, from the centre to the circumference. Nothing would be more easy than to accumulate points of distinction between these two diseases; but I think enough has been said to avoid confounding them.

It is much more easy to understand its being mistaken for a simple necrosis; but, in a given case, the nature of the organic lesion will be easily determined, by recollecting that simple necrosis does not cause any modification of the intimate structure of the dead tissue, whilst the tubercular infiltration causes beforehand an interstitial hypertrophy.

There is still another pathological condition of the bones with which tubercular infiltration is confounded; I refer to the suppuration of that tissue, a disease described under the name of inflammation of the medullary membrane of the bones; the interstitial hypertrophy will suffice here, also, to prevent the mistake.

SEAT OF THE TUBERCULAR DISEASE.

Although I have not treated separately of the seat of the two varieties of this disease, it will be easy to recognise, from the data we have passed in review, what is common to both, and what is peculiar to one or the other. All parts of the bony system are not equally liable to its attack; it may indeed be said, in a general manner, that it developes itself almost always in the spongy tissue of the bones. But we must remark here, that the spongy tissue of the bones, in an adult, presents itself under two different conditions, which may be designated by the names of *adipose* cellular tissue, and of *vascular*, *bloody*, or simply *red* cellular tissue. The first variety constitutes the extremities of the long bones and the short bones of the limbs. All the bones of the trunk are formed of the second; to ascertain this difference, it is only necessary to compare the spongy tissue of one of the condyles of the femur, with that of the body of a vertebra in the adult. In the first, the meshes are filled with a yellow, adipose matter; while the cells of the body of the vertebræ are composed of an extremely vascular red substance, presenting scarcely any trace of fatty matter; now, it is in this second variety of the cellular tissue of the bones, that the tubercular productions are almost exclusively developed. In children, as this difference in the tissues does not exist, and as the bones of the limbs as well as those of the trunk are all formed of this red cellular tissue, the tubercular disease attacks indifferently the bones of the limbs and of the trunk; in the adult, on the contrary, it is met with only in the bones of the trunk. This law admits of but very few exceptions; these too could perhaps be explained by the fact of a tardy transformation of the red cellular tissue into the adipose. It is in the very centre of the bony tissue rather than at its surface that this disease originates; a fact more easily ascertained in the case of encysted tubercles than in that of tubercular infiltration, which being ordinarily diffused, speedily reaches the surface of the bone. In the long bones, the extremities are the most usual seat of tubercles; and, it has appeared to me, that they are more frequently developed in the epiphysis, than in the contiguous and enlarged extremity of the diaphysis. Still, I have met with some cases, rare it is true, of encysted tubercles lodged in the compact tissue of the diaphysis; but I could not affirm that the accidental production was not developed in the medullary tissue, and that the destruction of the compact tissue was not consecutive. In the long bones, one extremity is generally attacked in preference to the other; thus in the femur, it is the inferior extremity; the contrary is the case with the tibia; in the humerus and the bones of the fore-arm, the cubital extremity is most generally affected.

This organic lesion has been observed in almost every bone of the skeleton; the following classification will indicate the order of frequency in each of them:

1st. Vertebræ;
2d. Tibia, femur, humerus, (in children;)
3d. Phalanges, metatarsal metacarpal bones;
4th. Sternum and ribs, iliac bones;
5th. Petrous portion of the temporal bone;
6th. Short bones of the tarsus and of the carpus.

The bones not mentioned in this table should be classed with those with which they have the greatest analogy of form and structure.

ETIOLOGY. I shall not dwell long upon the etiology of the tubercular disease, for I could only repeat here, what is every where said upon the causes of tubercles in general; I shall content myself with remarking that it is chiefly during infancy that this alteration manifests itself. I have met with it several times in children of two or three years; it begins to be less frequent towards the age of fourteen or fifteen, although it is still quite often observed at that age, and even at that of nearly thirty. The oldest person in whom I have seen it was fifty-five years old.

I regret my inability to support the propositions in the two preceding articles, by a statistical table; but it will be easily understood, that such statistics could not be made without an accurate knowledge of the disease, and without a certain method of distinguishing it from the organic lesions ordinarily confounded with it.

Application of the preceding views.—I have hitherto avoided making any application of the data acquired, in order not to distract attention from the general history of the evolution of tubercular matter in the bones: we will now proceed to make that application. I would premise, that my intention is not to give a complete history of the diseases I am about passing in review,—I propose only to show how many still obscure or badly explained points of their history find a satisfactory interpretation in the facts I have just pointed out; having thus more precise ideas of the degree and of the cause of the severity they may present, we shall be conducted by that very circumstance, to a more rational treatment.

I shall examine successively the tubercles, 1st, in the vertebral column, (*mal vertebral de Pott*;) 2d. in the epiphyses of the long bones, where they constitute a variety of white-swelling; 3d, in the phalanges, the bones of the metacarpus, and of the metatarsus; 4th. in the petrous portion of the temporal bone.

The vertebral column may be the seat of encysted tubercles, or of tubercular infiltration; the latter is the more common of the two forms. The tubercles may develope themselves in the body of the vertebra, or in its apophyses. What follows applies more especially to the tubercular disease of the body of the bone, which is unquestionably the most common form, and which alone causes that deformity of the spine known by the name of gibbosity.

A. When an Encysted Tubercle developes itself in the body of one or more vertebræ, it hollows out a cavity, and occasions in the bone a more or less considerable loss of substance; this last becoming daily more enfeebled, as the tubercular cavity increases in size, a moment arrives when the body of the vertebra, reduced to a bony shell, is no longer able to sustain the weight of the parts above it, and is suddenly crushed; some of the columns or partitions which supported the parietes, although preserving their normal structure and solidity, are broken and the opposite sides of the cavity are brought, if not into immediate contact, at any rate into greater proximity. The part of the vertebral column above the tubercular excavation, becomes inclined to an angle with that below, and gibbosity is then almost instantaneously produced; many examples of these gibbosities thus suddenly occurring, are found recorded. The parietes being thus brought nearer, the tubercular matter is in part expelled; the cyst becomes hypertrophied, fills up the cavity that might still remain, and undergoes the fibrous transformation; the bony portions of the processes become consolidated, are united together in their new position, and the cure is complete. When we are enabled, several months or years after the formation of these gibbosities, to examine the vertebræ, we find upon the body of the vertebræ irregular, angular solutions of continuity, in which it is impossible not to recognise an ancient and consolidated fracture.

This is the most simple manner in which gibbosities are formed, but not, as I think, the most common; it is more usual to see the parietes of the cavity yield to the pressure above them without being fractured; the gibbosity in this case may not be so suddenly formed in, although it follows in a short period of time.

The destruction of the bony tissue, instead of stopping here, may, on the contrary, continue to advance, either forming new cavities, which soon open into the primitive cavity, or form the daily enlargement of the latter by the process of absorption which has been mainly instrumental in its developement. The destruction of the tissue is then sometimes very extensive; the bodies of several vertebræ may disappear entirely, without leaving a single separate fragment, a single remnant, so to speak, of the destroyed vertebra. I have seen in a child the entire destruction of the four last cervical and first dorsal vertebræ; the cervical portion of the spine was bent so as to form a right angle with the dorsal; the body of the third vertebra of the neck rested by its anterior face upon the superior surface of the body of the second dorsal vertebra. I have several times met with this disposition which is easily explained when we consider that the posterior part of the two vertebræ being kept at their proper distances by the processes, the superior vertebra must move through a quarter of a circle turning upon a fictitious axis which would pass through its two holes (by which the nerves, blood-vessels, &c. pass out.) In consequence of this movement, its anterior face turns directly downwards, while its inferior face looks backwards; besides, the anterior vertebral ligament which was connected with the destroyed vertebræ is carried, in consequence of its connection with the superior vertebra into the interval between the two bodies of the vertebræ, where it serves as a fibrocartilage, being doubled on itself. *M. Nichet* has presented in his case x. a remarkable example of this destruction; the bodies of eight dorsal vertebræ have entirely disappeared; the second and eleventh dorsal vertebræ, which form the upper and lower limits of the destruction, are united by a thick, fibrous membrane, which does not project at all in front. Remarking upon this case, *M. Nichet* proposes the following question:—"But in what way has the organic lesion acted to cause the disappearance of so vast an extent of the vertebral column?" An analysis of the answer of *M. Nichet,* will serve, I think, to render more precise our ideas upon this point. *M. Nichet* thus expresses himself: "In general, this destruction may occur in several ways: 1st, when the tubercle attacks the body of a vertebra, it forms there cavities so large, and reduces it to such delicate walls that it becomes incapable of supporting the parts above; the bone is suddenly crushed and the curvature of the spine is abruptly produced: 2d, the tubercles situated in front of the body of one or more vertebræ cause their destruction from before backwards: 3d, when a tubercle developed in a cartilage, has caused its destruction, the two vertebræ it had separated wear each other away by friction; then are the cartilages and vertebræ above and below, constantly brought nearer by the increasing curvature of the column, are reacted upon in a similar manner. It is probably, by this last process, that the vertebræ in the subject of the preceding observation have disappeared; the sudden crushing would have left bony sequestra, of which not the slightest trace has been found." (p. 26.)

All authors, since the time of Galen, who have spoken of vertebral tubercles, have emulated each other, as it were, in repeating that tubercles situated in front of the vertebræ wear them away from before backwards, without enabling us to attach any sense to what they understand by this species of destruction. Sometimes a depression is met with in part of the body of the vertebræ, at a point corresponding with a tubercular deposition; but this loss of substance is no more a wearing away than is the depression corresponding to the passage of an artery over a bone. In the passage marked 3d, *M. Nichet* explains himself more fully; he supposes that a tubercle, developed at first in a cartilage, has caused its destruction, and that the two vertebræ which were separated by this cartilage, being once placed in contact, wear each other away by friction. Let us see, however, in the first place upon what this opinion, that the tubercle is first developed in the cartilage and not in the bony tissue, is founded. If we find a tubercular deposition in the *remains of the cartilage after the destruction of the ninth and tenth dorsal vertebræ*, is not the same also met with in the very body of the twelve dorsal vertebræ? Besides, in order to prove that the tubercle developed in the inter-vertebral cartilages commenced there, and is not the result of the extension of the disease from the neighbouring bony tissue, it should be enveloped on all sides by the sound cartilage. But the author does not explain himself upon this point; I find then already, in the very case reported by *M. Nichet,* two reasons if not for rejecting his opinion, at any rate for considering it as deficient in satisfactory proof. (I shall have occasion again to refer to the primitive developement of the tubercular disease in the cartilages, and I hope to be able to demonstrate that it is of extremely rare occurrence, although the contrary opinion is still advanced.)

"The two vertebræ," he says, "wear each other away by friction; the cartilages and vertebræ above and below are acted upon in a similar manner. It is probable, that by this last process, the vertebræ in the subject of the preceding observation, have disappeared." What are the proofs? "The sudden crushing of the vertebræ would have left bony sequestra of which not the slightest trace has been found." Thus upon the single circumstance that no bony sequestra are met with, *M. Nichet* rejects the hypothesis of a sudden crushing, and considers himself immediately authorized to admit a mechanical wearing away; but he was not compelled to allow a sudden crushing; a gradual yielding without fracture may easily be supposed; and even admitting a fracture, there is no evidence that the fragments should necessarily become necrosed; for, as *M. Nichet* has very well shown, the tissue bordering upon the tubercular excavations has not undergone any alteration; it remains in a perfectly normal condition: (we know, besides, that the sequestra found in tubercular cavities are caused by a peculiar alteration of the bony tissue and not by fractures as *M. Nichet* supposes.)

Let us now see what are the facts that militate against the supposition of mechanical wearing away: I will not speak of the disinclination to admit the possibility of such a destruction of living tissues, the seat of active circulation, without, in most cases, the manifestation of any reaction capable of limiting this work of destruction; still, it must be allowed, that this occurrence would be an exception to the common law which governs pathological phenomena; but if we admit a purely mechanical phenomena, we must accept it with all its consequences. Now it is impossible that vertebræ should wear themselves away, by reciprocal friction, without causing fragments, or bony remains; but observation teaches us that in the present case, this bony dust, the mark of destruction in consequence of friction, is never met with. In the example cited by *M. Nichet*, eight bodies of vertebræ had disappeared, and there was only found, after so vast a destruction, a spoonful of *soft butter-like* tubercular matter, without the slightest particle of bone. If the absorption of liquids, or of matter capable of softening or passing to the liquid state, is daily observed, I do not think any one would be inclined to admit, for a single instant, that an inorganic dust, an actual foreign body, could be taken up by absorption. I do not think it necessary to sustain this fact by additional proof.

But let us return to the question proposed by *M. Nichet*. How has the organic lesion occasioned the destruction of the tissues? I do not think that it is necessary to introduce a new cause to explain the facts. This destruction appears to me to be in every respect analogous to that observed in the centre of the body of each vertebra, that is to say, an absorption of tissue. The extent of the tissues destroyed is the only difference. A cavity is formed in a vertebra, extends in every direction, destroys the fibro-cartilages, which separate the vertebræ, invades and successively destroys these vertebræ. The tubercular matter is in part evacuated, in part re-absorbed; the opposite extremities of the cavity approach each other, and the space is thus filled up. It is easily conceived then how the gibbosity, after having appeared more or less rapidly, may daily increase in consequence of the progressive destruction, and it must be recollected that the parietes of the cavity could not be brought together without the angular curvature of the spinal column.

In some cases bony bridges are seen extending from one vertebra to another, representing as it were bony splints destined to sustain the vertebral column, enfeebled, as it is, by this loss of substance. These preserve the natural erectness of the vertebral column; while, at the same time, they prevent the approximation of the parietes of the cavity, thus impeding the process of filling up. Far from considering these bony bridges as favourable circumstances in the disease, I do not hesitate to consider them an obstacle to the ordinary mechanism of spontaneous cure; hence it should be laid down as a principle, that all attempts to obviate the production of the gibbosity should be considered as irrational. The efforts of the physician should aim, not to oppose the gibbosity, but to suspend the secretion of tubercular matter, the source of all the accidents. It is worthy of remark, that the *anterior* vertebral ligament often becomes ossified and forms these additional bony columns, while it is extremely rare, if indeed it ever occurs, that the *posterior* ligament is thus affected, a most fortunate circumstance, and one tending to diminish the frequency of compression of the spinal marrow.

B. The vertebral column is often the seat of a TUBERCULAR INFILTRATION, ordinarily presenting itself in a diffused form; it is rare to find but one or two bodies of vertebræ affected; most generally several, five or six, for example, are observed entirely deprived of periosteum, and separated from the anterior vertebral ligament by a puriform tubercular collection; the bone, thus denuded, is of a grayish yellow colour, and appears saturated with pus; it has still its natural form, and presents, but very rarely, small bony vegetations, on its surface; it is considerably harder than the healthy vertebræ. (Superficial caries of authors.)

Analyzing the phenomena of this form of the tubercular disease of the vertebræ, as we have done those of the preceding, we would ask, in the first place, how is the gibbosity in the form under consideration produced? Two causes concur here: 1st, the destruction of the inter-vertebral fibro-cartilages: 2d, the wearing away (*usure*) of the bodies of the vertebræ.

Destruction of the inter-vertebral fibro-cartilages. In this variety we often observe an entire destruction of one or more inter-vertebral disks, with scarcely a few remains still adherent to the two bony surfaces that gave them insertion. The diseased region of the spine then strongly resembles portions of the vertebral column of which the disks have been almost entirely destroyed by a prolonged maceration, while the bones have preserved their natural form and aspect. This has given origin to the remark that the disease often commences in the inter-vertebral cartilage; but this arises from a false application of a true principle, and one daily made use of in the study of pathological anatomy. In fact, it is evident that if the inquiry related to two organs formed of the same tissue, and placed in the same conditions, the conclusion that the most altered of the two had been the first affected, would be perfectly justifiable. But in the present case the organs are formed of two different tissues; in one it is the bony, in the other the fibrous tissue; the conclusion then is no longer legitimate. This error has been the more easily accredited, as authors were preoccupied with the idea that the diseased vertebra ought to be softened; but, as in this case, they found them hard and solid, they did not hesitate to conclude that the vertebræ were scarcely affected at their surface, while the cartilages, entirely destroyed, appeared to them the primitive seat of the vertebral disease. Passing by reasonings based upon facts imperfectly observed, let us see what observation teaches us respecting this matter: 1st, It is very common to find a gelatinous infiltration of tubercular matter in the body of a vertebra without any alteration of the fibro-cartilages: 2d, The puriform infiltration, on the contrary, when it has reached the surface of union of the cartilage, is always accompanied with an alteration of these cartilages; I have never seen this lesion except under these circumstances: 3d, This destruction of the cartilage has always the same limits as the infiltrated spot upon the surface of the bony tissue: thus, for example, if the body of a vertebra is infiltrated only on one of its lateral halves, only that half of the inter-vertebral cartilage, corresponding to the lesion in the bone, will be destroyed: 4th, If the body of one vertebra only presents this infiltration, the destruction does not extend the whole thickness of the fibrous disk, it is confined to that part which was in contact with the infiltrated bone. There is, therefore, an exact correspondence between the puriform infiltration of the bony tissue and the destruction of the fibro-cartilages. Now, as the puriform infiltration is always consecutive to the semi-transparent infiltration, we have a right to conclude that the alteration of the cartilage is equally consecutive to that infiltration, and consequently consecutive to the alteration of the bone. There are, it is true, in the observations of *M. Nichet*, some facts that appear to militate against this conclusion; thus, for example, in the first observation, in which he says that the cartilage which united the two vertebræ had entirely disappeared, the surfaces left denuded by the destroyed cartilage, are represented as entirely unaffected. It is here a question of words, and it is probable that these surfaces considered natural because they were smooth, regular, and of a natural hardness, would have presented to me some of the characteristics of a veritable infiltration. The observation, No. IV. is the only one in which a tubercle appears to have been developed in a fibro-cartilage, as a complication of a tubercular infiltration. As regards my-myself, never having observed a single similar case, although my opportunities for examination have been abundant, I think, that this single fact recorded in the work of *M. Nichet* should be regarded as an exception to the law.

The ideas derived from anatomy, respecting the vital conditions of the fibro-cartilages explain very clearly the series of phenomena observed. Nearly all the vessels that penetrate the fibro-cartilages, reach their two surfaces after having traversed the bony structures of the vertebræ. What then occurs when one of these fibro-cartilages is situated between the bodies of two vertebræ affected with puriform infiltration? All vascularity being destroyed in the tissue of the bone next to the cartilage, all the vascular communications of this cartilage are dissevered or at least modified in a marked degree. The fibro-cartilage, deprived of the elements of circulation and nutrition, dies, and from that moment subjected to chemical laws, it is destroyed by a mechanism similar to that occasioned by maceration. Surgeons and anatomists are well aware of the odour of maceration presented by the pus which issues from these pretended caries of the vertebræ. How often have we heard *M. Dupytren* call attention to this point of observation to which he attached great importance!

2d. *Wearing away* (*usure*) *of the vertebræ.*—As soon as one or more cartilages are destroyed, the vertebral column is seen to bend forward, though as yet there is no gibbosity, properly so called. The bodies of the vertebræ, not yet changed in form, come in contact by their corresponding faces, and we then observe a veritable wearing away, the consequence of friction. As the posterior parts of the bodies of the vertebræ are fixed by the articular processes, and as the weight of the viscera tends to bend forward the spinal column, the anterior part of each body is the part which suffers most from the friction and wearing; each portion of the cylinder is thus observed to take the shape of a wedge, the base being turned backwards, and the summit forwards. The gibbosity then becomes evident, but takes place in a gradual and progressive manner. I admit, as may be seen, in the case of tubercular infiltration, this mechanical wearing away, which I rejected in the former case; but it must be remarked, that here the circumstances are entirely different; I admit the wearing away of the necrosed bones, but not of the living bony tissue; I am, moreover, authorized to admit it, by the wedge form constantly taken by the body of the vertebra undergoing this change, and by the presence of a bony dust, constantly found in the cavity, or in the purulent sanies that flows from it.

To this cause of destruction another is soon added; the separation of the necrosed fragments, sometimes of the whole body of a vertebra. These sequestra fall into the cavity, where they remain free, and keep up by their presence a copious suppuration. Sometimes, both varieties of this disease are met with in the same spinal column, so that there is, so to speak, a fusion of the characteristics peculiar to each of them.

From the preceding data, we may conclude that the two varieties of the tubercular disease of the vertebræ differ in a marked manner from each other, in respect to their essential characteristics, and in respect to their severity. The first alone seems to me susceptible of cure; the second is always incurable, because it generally attacks a greater extent of the vertebral column, and, especially, on account of the sequestra, veritable foreign bodies, which keep up a deep and inexhaustible suppuration. It will now be seen at once, how we explain that opinion, which at first appeared a true surgical paradox, namely: that the profound caries is alone susceptible of cure, while superficial caries is ordinarily incurable. The first announces itself by a gibbosity, which appears sometimes suddenly, but always very rapidly; the second by a deformity that manifests itself only after some time, and in an insensible manner. Thus, all other things being equal, the sudden appearance of a gibbosity, in a case of vertebral disease, should be considered rather a fortunate than an unfavourable circumstance; for it is, in our estimation, the indication of the existence of the first form of this affection, which alone, as we have said, is susceptible of cure.

Tubercles in the articular extremities of the long bones.— The tubercular disease seated in the spongy extremities of the long bones, and consequently in the vicinity of the articulations, gives rise to various pathological phenomena, generally comprehended under the denomination of white-swelling. These phenomena should be separately studied in each of the two varieties of the tubercular disease of the bones. I will not here speak of the secondary symptoms of these white-swellings, such as pain, engorgement of the tissues surrounding the articulation, tubercular abscesses, and the fistula succeeding them; they would belong to a complete history of the tubercular white-swelling; I shall dwell solely upon two points, which may be considered as characterizing these two varieties.

When an encysted tubercle is developed in the extremity of a long bone, it is at first enclosed in the middle of the spongy tissue of the bone, at a small distance from the articular cavity; it increases in all directions, and gradually approaches, on the one side, the articular cavity, and on the other, the periphery of the bone situated outside of the articulation. If in the progress of developement, it reaches more quickly the surface outside of the articulation, it empties itself into the neighbouring cellular tissue; an abscess forms there, grows and opens, and is followed by a fistula; the tubercular cyst becomes hypertrophied, the cavity in the bone is filled up, and a spontaneous cure is common in this case. But if, on the contrary, the tubercle first reaches the articulation, either because it has commenced at but a little distance from it, or because the new bony layers, accumulating where the bone is covered by its periosteum, cause the constant retrogradation, so to speak, of the periphery of the bone, the diarthrodial cartilage is perforated, the tubercular matter is effused into the articulation, and suddenly occasions an intense arthritis, which is accompanied with the most serious local and general symptoms, and may be followed by an almost certain disorganization of all parts of the articulation. I have seen several examples of this unfortunate termination. A child, of twelve years of age, presented several of the characteristics which are generally regarded as peculiar to the lymphatic constitution, but in other respects enjoyed good health; he experienced, at distant intervals, a sensation of transient fatigue in the knee-joint; yet he could walk, run, and in a word, execute all the movements, however extended or rapid, without pain, and without the slightest inconvenience. Suddenly, a violent pain was felt in the left knee; it increased the next day, and on the day following; the articulation swelled and became red; an abscess formed in the vicinity, burst, and discharged outwardly a purulent liquid containing some tubercular flocculi. The suppuration continued, and gradually exhausted the patient, until death was the consequence.

On examination after death, I found the articulation filled with pus, and a circular perforation about four lines in diameter, between the two condyles of the femur, and corresponding to a globular cavity, lined by a very vascular membrane, half a line in thickness, which was easily recognised as the envelope of a tubercle of the bone. Around this perforation, the diarthrodial cartilage was not much changed; it had only lost its natural brilliancy; the synovial membrane presented a dull, rough surface, covered, in some parts, by a layer of albuminous matter. The sub-serous capillary vessels, extremely distinct, formed a violet-red net-work, easily perceptible through the serous membrane. A case similar to this has been collected at the Hôpital des Enfans Malades by *M. Rufz*, and published. I had occasion to examine another case of tubercular perforation of the diarthrodial cartilage in a child, that died of pneumonia, a sequela of rubeola, two months after the invasion of the articular symptoms, which had been mistaken, on account of the suddenness of their appearance, for a rheumatism. In a little child that remained in the *Salle Sainte Marthe* at the Hôtel Dieu, during nearly a year, a coxo-femoral arthritis commenced suddenly by an extremely violent pain in the right hip; several abscesses formed there, and gave discharge at first to a dirty serous fluid, holding in suspension tubercular floceuli; the general and local symptoms gradually ceased, the suppuration stopped, and the cure was complete. Is it not presumable that in this case the disease of the hip had originated from a tubercle, of which the cyst had opened into the articulation, and the cavity finally been filled up?

A tubercular infiltration may be developed in the epiphisis of a long bone, without invading that portion of it which forms the articular surface. The infiltrated part is necrosed, elimination takes place, and the extraction of the sequestrum causes a complete cure. But such is not the case when the infiltration extends to the surface of the bone covered by cartilage. In fact, this cartilage soon disappears, the mechanism of its destruction being, without doubt, analogous to that observed in the case of inter-vertebral cartilages. Such at least seems the most probable opinion, if we consider the identity of the principal pathological circumstances. But it is worthy of remark, that the destruction of this cartilage is not always followed, as in the preceding case, by a purulent effusion into the articular cavity; it is, on the contrary, quite common to see this cavity obliterated before the complete destruction of the cartilage which covers the infiltrated portion of the bone: the difference may arise from the fact, that in the first case, the disease of the bone is ordinarily confined to a very small portion, and that the encysted tubercle destroys the cartilage without altering the part surrounding the perforation, and without exciting an inflammatory reaction in the neighbouring tissues: whilst the infiltration, generally diffuse, and extending over a large surface, determines in the serous cavity an inflammation that results in the obliteration of the cavity. After the destruction of the cartilage, the infiltrated portion is necrosed, and separates: and it is then that we find those hard, white, ivory-like portions of bone, contained in the articular cavity. We now easily perceive how this fact, noticed by *Boyer*, and considered by him so strange, receives a rigorous explanation. These sequestra, enclosed in the articular cavity, keep up a suppuration, which may be prolonged for several years, and occasion marasmus and death. The most rational treatment in such cases, is evidently to extract the sequestra, the resection of the diseased extremities of the bone being already, so to speak, made spontaneously; but it must be confessed that it is rare that the diagnosis can be so clearly established as to decide us to act under such circumstances. Our efforts, therefore, should tend to put an end to this uncertainty, and then only shall we be able to glory in having cured a disease, of which the danger is ordinarily averted only at the expense of mutilation.

In children, the form of the bony extremities suffering under this infiltration, is soon modified in a remarkable manner, occasioned by an arrested developement of the infiltrated portion. Thus, if we suppose one of the condyles of the femur to be the seat of infiltration, while the other is perfectly healthy, this last alone will continue to grow, and a deformity will soon be apparent in consequence of this unequal developement. This deformity of the femur will be soon followed by that of the tibia, one of the condyles of which will be extraordinarily developed, and will fill up the void which would otherwise be formed in the articulation.

From this short sketch of the two varieties of the tubercular disease of the articulations, it may be seen that there is a striking analogy between them and the tubercular disease of the lungs in respect to perforations. Thus, the first variety corresponds to the cases in which only a small number of pulmonary tubercles exists, one of which opens into the pleura, and occasions a sudden and acute inflammation of that membrane; whilst the tubercular infiltration, ordinarily diffuse, correspond to the cases in which, a great number of tubercles occupying the lungs, there are formed between the two lamina of the pleura, adhesions which prevent the effusion of softened matter into its cavity.

Having then given the key to the application of these general data, I will confine myself to a few indications respecting tubercles in the other bones.

The phalanges of the fingers and of the toes, the bones of the metacarpus and metatarsus, often present the first variety of tubercular disease, constituting the spina-ventosa of children, a disease which has no analogy with the spina-ventosa of adults, adults, is almost always spontaneously cured, and never requires amputation.

Certain cases of chronic otitis, especially in phthisical patients, are often only the result of the suppuration of an encysted tubercle, which has opened into the cavity of the tympanum, or into the external auditory meatus. I have met with three cases in children; a fourth, found in an adult affected with phthisis, has been shown to the Anatomical Society by *M. Tonnellier.* The central necroses of the calcaneum are often, especially in children, merely the result of a tubercular infiltration, which has occasioned the death of the infiltrated portion. An examination of the sequestrum, which presents an augmentation of density, consequent upon interstitial hypertrophy, will convince us of this fact.

I think that enough has been said to lead to the conviction that the knowledge of the tubercular disease of the bones, throws new light upon the history of several of the diseases of this tissue; more ample details would belong to a complete description of these diseases.

BIBLIOGRAPHIC NOTICES.

The Elements of Materia Medica: comprehending the Natural History, Preparation, Properties, Composition, Effects and Uses of Medicines. Part I. *Containing the General Action and Classification of Medicines, and the Mineral Materia Medica.* By JONATHAN PEREIRA, F. R. S. and L. S. &c. London, 1839. 8vo. pp. 558.

THERE is perhaps no department of medical science, which has undergone such important changes and modifications in a comparatively recent period, as that of materia medica or pharmacology. It is true that every branch of medicine has received an astonishing impulse within the last quarter of a century. General anatomy, pathology, and medical jurisprudence, have been created; physiology has assumed a practical and demonstrative character; while chemistry and botany have shed a steady blaze of light, and opened up new avenues to scientific discovery. Zealous labourers have sprung up on every side; and a generous emulation has brought forward a host of able competitors, ardent in the race, and panoplied for successful action. The age of mysticism, of blind credulity, and of visionary speculations, has gone by, and whatever is now advanced as important to the healing art, must be brought to the test of reason and of facts. Nature, with her ample stores, is spread before us; life and organization, diseased action and structural changes, chemical laws, and botanical affinities, all claim the most profound and diligent investigation. Truly may the physician of the present age exclaim, "*ars longa, vita brevis!*"

The object of the author, as stated in his preface, is to supply the medical student with a class-book on materia medica, containing a faithful outline of this department of medicine; embracing a concise account of the most important modern discoveries in natural history, chemistry, physiology, and therapeutics, so far as they pertain to pharmacology. This, the author has accomplished, in a more able and satisfactory manner, than we have seen in any other work. The subjects are treated in the order of their natural historical relations, as being the most convenient, and the least objectionable mode of classifying the objects which come under notice. The same plan has been followed by Dr. Christison, in his invaluable work on poisons; but so far as we can learn, this is the first systematic work of the kind in the English language, on materia medica, in which this method has been followed.

Those who read the London Medical Gazette, will perceive that Mr. Pereira's book is made up chiefly of his lectures, delivered at the Aldersgate School of Medicine, in the years 1836—7—8. Some excrescences have been lopped off, and some deficiencies supplied; and many of the articles have been illustrated in a beautiful manner, by wood-cuts and steel engravings, so that on the whole, the value of the lectures, as originally published, has been much enhanced.

The incorporation of natural history, botany, chemistry, anatomy, and physiology, into works of this nature, has been objected to, as leading to unnecessary and tedious diffuseness, adding largely to their expense, and without affording any equivalent advantage. This objection would perhaps have weight, were the author to go into such minute detail as we find in the "Elements" of Prof. Thomson, which will be found noticed in the present No. of this Journal. In a *text-book* on materia medica, it is questionable whether diffuseness be not unnecessary, and rather calculated to discourage the medical student, than otherwise; still, we should think such a work very imperfect indeed, did it not contain such general considerations as are necessary for the perfect elucidation and thorough understanding of subsequent details. We believe it will be found that Mr. Pereira has hit the proper medium, neither enlarging too much, nor encroaching too far on the domain of other text-books; nor on the other hand, leaving any thing unexplained, which is essential to an understanding of what follows. As well might it be urged, that works on midwifery should contain no anatomy; those on toxicology, no physiology or pathology; and those on the practice of medicine, no therapeutics, as that works on materia medica should contain no chemistry, natural history, or physiology. The author has compressed within less than one hundred pages, what in Prof. Thomson's work, occupies more than twice the same space; and we venture to remark that he has left nothing unsaid, which was essential to be known. In describing individual articles, however, there is a particularity and fullness, which we find in no other work. For example, his remarks on Iodine occupy fourteen pages, without including its compounds. Prof. Thomson's but five, including the compounds; and the former are systematically arranged under the following heads: general history; natural history; preparation; properties; characteristics; purity; physiological effects; modus operandi; uses; administration; antidotes. For lucid order and perspicuous arrangement, we have never seen a work of the kind, which will compare with Mr. Pereira's; and this is one of the important features, which commend it to the favourable notice, not only of students, but of physicians generally. But this, though a highly important feature, is, nevertheless, not its chief excellence. The author not only displays great learning and consummate talent, but throughout appears imbued with sound practical experience. Many works of this nature have not been written by practical men. Accordingly they are of little value as safe guides to practice. This will not apply to the work in question. We purpose to notice this publication more in detail, when the second part has been received, which will doubtless be in time for the next number of our Journal. In the meantime, we hope that some of our enterprising publishers will favour the profession in this country, with a re-publication of the work, at as early a period as possible.

C. A. L.

Flora Medica. A Statistical Account of all the more important Plants used in Medicine, in different Parts of the World. By JOHN LINDLEY, F. R. S. London, 1838, 8vo. pp. 656.

We had purposed, under a notice of the above work, to consider somewhat in detail, the great advantages which the medical man may derive from an intimate acquaintance with the natural system of botany; but these remarks will be mostly deferred to a future number of the Journal.

The difficulties which many suppose must necessarily be encountered in the study of the natural system, are greatly exaggerated. Because the vegetable kingdom comprises a great number of families, it is inferred that the study of plants according to this method, cannot be advantageously prosecuted, without an acquaintance with a very large number of vegetable forms. But this is far from being the fact. Although there are at this time nearly three hundred natural orders of plants established, two-thirds of which have representatives in this country, yet the principal part of our vegetation is comprised within a very moderate number of families. It has been calculated, that thirteen-sixteenths of all the flowering plants of North America, so far as at present determined, belong to thirty-five orders; and *nine* of these orders comprise about half of the whole number. An acquaintance, therefore, with a few important and well-known tribes, offers a key to the knowledge of nearly all our plants. And moreover, the careful and thorough study of even a single plant in the principal divisions of each order, leads directly and certainly to a general knowledge of the structure, habit, uses, and sensible properties of the whole.

A few examples will serve to show the great value of the natural system to the physician in investigating the properties of vegetables. The *Araliaceæ* yield a *bitter principle*, as *panax quinquefolium; the Umbelliferæ* yield an *aromatic volatile oil*, as *carum; pimpinella; fœniculum; daucus; coriandrum; anethum;* also a fœtid *gum resin*, as *galbanum;* an *acrid gum resin;* and lastly, a *narcotic principle*, as *conium*. The *Ranunculaceæ* yield a *narcotic principle*, as the *aconite;* a *purgative principle*, as the *hellebore;* and an *acrid principle*, as the *ranunculus* and *delphinium*. The *Papaveraceæ* yield a *narcotic principle*, as the *papaver*. The *Cruciferæ*, a *volatile* and *pungent principle*, as the *sinapis* and *cardamine*. The *Myristicæ*, an *aromatic volatile oil*, as the *nutmeg*. The *Malvaceæ* abound in *mucilage*, as the *malva*. The *Aristolochiæ*, a *stimulant, bitter principle*, as the *snakeroot;* while the *Rosaceæ* yield an astringent principle, &c. We might thus proceed throughout the natural families composing the classification of Jussieu, and show that, as a general rule, (the exceptions being few and unimportant, and often owing to the influence of culture,) plants belonging to each of these orders yield an analogous principle; but it is unnecessary. Our object is attained if we can induce physicians to examine the subject.

The vegetable materia medica of the United States, is as yet, almost a *terra incognita*. The Bartons, Bigelow, and Rafinesque, have, it is true, described a few of our medicinal plants, and given us beautiful plates of the same, but how meagre is their account of their medicinal virtues! how little is satisfactorily ascertained with respect to their peculiar properties, and the indications they are respectively calculated to fulfil! Of many of them a mere technical description is given; of others, it is said they have been employed by the Indians, and are therefore recommended to us, as worthy of further trial. Now, no country on the face of the globe, is richer in materia medica than our own; and certainly none inhabited by civilized people, has been less investigated and explored. A noble field thus lies before us to excite and reward exertion, and rich and abundant results await the labours of those who zealously enter upon it. Medical botany has received a new and mighty impulse of late, by the application of analytical chemistry; by the aid of which, the peculiar proximate principles of vegetables are detected with the utmost precision and accuracy. If any one will take the pains to examine Thomson's Organic Chemistry of Vegetables, noticed in this No. of our Journal, he will see that here is actually a new science sprung into existence within a few years, promising the most astonishing results, and sufficient to employ the time and energies of the most laborious votaries of science. Among the almost numberless vegetable productions of this country, we believe it would be difficult to name more than half a dozen which have been properly analyzed; but had this department of the materia medica been prosecuted as it deserved, we should not only, at this moment, have been independent of foreign countries for our drugs and medicines, but we should be able to supply the wants of other lands; and more than this, our diseases would have been rendered less fatal, owing to improved methods of cure. Had the lamented Dana been spared to us, doubtless much would, ere this, have been effected, and many important discoveries made in this new department of our science. Such peculiar analytic talents, combined with such indefatigable industry and research, must have accomplished great results. It is worthy of notice, that whenever he is quoted by English writers, he is invariably styled Monsieur or M. Dana; as if American soil could not produce a skilful analytic chemist! We would therefore exhort every medical student about commencing his career, and every physician whose circumstances are favourable to such investigations, whether they aim at fame, or wealth, or usefulness, to cultivate vegetable chemistry.

But in the cultivation of our indigenous materia medica, there is danger, perhaps, of magnifying the virtues of favourite articles; and in some instances we have seen a blind attachment for specifics which do not exist in nature. Some of our physicians, who have the reputation of having paid great attention to this subject, and who are known as men of learning, and scientific teachers, are from this cause, confessedly among our poorest and least successful practitioners. Their minds, it would seem, have almost exclusively been directed to one branch of professional study, an important one, it is true, but still one which, if not connected with sound physiological and pathological knowledge, is as likely to lead to erroneous practice, as to serve as a guide to a safe and successful one. We see this exemplified in the case of the Thomsonian or botanic doctors, so called. Rejecting all other knowledge but that of "roots and herbs," they enter the field, fully prepared, in their own opinion, to combat disease in every form. With no knowledge of the laws of health and disease, all morbid phenomena are merged together, and regarded as a unit; no possible circumstances are supposed to indicate a modification or change of treatment; high arterial action is raised still higher by the external application of steam; while the heart is urged to still more unnatural action, by the internal fires of lobelia and red pepper; the delicate tissue of the vital organs gives way, and sanguineous and serous extravasations are the fatal result.

In like manner, we have seen a regular practitioner of medicine, educated at a school where he is taught to believe that *sanguinaria* is a *panacea*, answering all possible indications; sudorific, deobstruent, expectorant, cathartic, emetic, diuretic, chialogogue, and even sedative. We have seen such physicians treat pleurisy and other inflammatory affections, without bleeding, or even free catharsis, relying on the supposed specific virtues of some vegetable hobby, to the neglect of those means which the experience of the whole medical world has proved to be efficacious in the removal of such diseases. In this way, the *asclepias tuberosa* has been brought forward as a specific for pleurisy; *sanguinaria* for acute and chronic catarrh, and a host of other maladies; *cohosh* for phthisis pulmonalis; *Indian hemp* for dropsy; and we notice in the appendix to the last No. of the London Quarterly Review, and the British & Foreign Med. Rev., the advertisement of a "SPECIFIC FOR FEVER," by Dr. Warburgh, long a resident practitioner of medicine in the British Colony of Demerara, and "known as a skilful and scientific botanist." From the accompanying testimonials signed by medical men, it would seem to be established beyond a doubt, that Dr. W. has discovered a most valuable sudorific, well worthy the attention of physicians in the treatment of remittent, intermittent, and perhaps other fevers; but to admit that it is a specific for all fevers, is more than we feel willing, with our present pathological notions, to do.

The flora medica of Lindley supplies a desideratum which has long been felt, both by the student as well as the teacher of medicine. Until this work appeared, there was no general work extant, which contained correct systematical descriptions of medicinal plants, grouped together under their natural orders, and so arranged as to secure the purposes of a text book. That the physician should have access to a botanical account of the plants which furnish the substances used medicinally in different parts of the world, is certainly a matter of no small importance; especially since there are so many conflicting statements respecting the sources from which medicinal articles are derived. We could give numerous examples of such from our standard authors on Pharmacology, were it necessary; it will suffice, however, at present, to state that, of the few kinds of vegetable drugs admitted into the last edition of the Pharmacopeia of the College of Physicians of London, *twelve* are referred to plants which do not produce them, and *twenty-six* others have been assigned to their sources, with more or less inaccuracy.

It has been the aim of the author to include in his work all the plants, whether indigenous or exotic, and whether officinal or not, whose properties were sufficiently well attested to deserve particular notice. This, on the whole, has been accomplished with a great degree of success, though we perceive that some valuable medicinal plants of our own country have been omitted. If Mr. Lindley had been a medical man, and better acquainted with the properties of different vegetables, he would have probably executed his task more to our satisfaction, as he would have passed by some inert articles which he has now admitted, and would have given us more information as to the therapeutic application of the different substances which are known to possess active virtues, but the precise effects of which are not sufficiently understood, or explicitly pointed out. The author, however, has generally noticed at greatest length those plants which he supposes to be most important; while others are either very shortly described, or only mentioned by name. The technical descriptions, also, have been carefully framed in accordance with the existing state of botanical knowledge, and the most approved rules of modern science. The descriptions have been mostly borrowed from other botanists, in many instances altered and corrected; but under several articles, e. g. cinchona, croton, rheum, convolvulus, and others, there is much valuable original investigation. For the sake of convenience, the arrangement of the orders corresponds with that of the author's "Natural System of Botany," now well known in this country, through the instrumentality of one of our ablest botanists, John Torrey, Dr., who has increased its utility by adding a highly valuable appendix. The work contains a description of over 2,000 genera of plants; a great number of which, however, may safely be pronounced inert. Its chief value, and in this respect it is invaluable, will be found to consist in the correct botanical description of the different medicinal plants, serving as a model upon which the medical student may familiarize himself with the art of descriptive botany. If he expect to gain much information as to medical properties, he will be doomed to disappointment. In conclusion, we commend the work with great confidence to all who aim at precision and accuracy in medical science.

C. A. L.

Elements of Materia Medica and Therapeutics; including the recent Discoveries and Analyses of Medicines. Second Edition. By Anthony Todd Thomson, M.D., &c. London, 1835. 8vo. pp. 1075.

This elaborate work of Professor Thomson is but little known in the United States, as its great bulk has hitherto prevented its republication. Its merits, however, justly entitle it to this honour. In copiousness, none except Pereira's certainly can compete with it; and in general accuracy of detail we know none superior. The author has successfully aimed to collect in one point of view all the discoveries with which modern chemistry has enriched the field of materia medica, and those practical facts which clinical medicine has furnished for elucidating the doctrine of therapeutics. Instead of commencing his medical education by attending lectures on materia medica, he thinks the student should previously attend, at least, one course of natural history, botany, chemistry, anatomy, and physiology, and then only will he be prepared to comprehend the doctrines delivered in a course of materia medica or therapeutics. Professor Thomson's work will prove a useful guide to the practitioner, as it includes the results of thirty years' attentive and close observation in the treatment of diseases. Materia medica must be considered as still in its infancy; but with what rapid strides would it progress, were medical men to imitate the author of this work, and faithfully record what they have carefully observed, separating facts from conjectures, and truth from misrepresentations!

Fifty pages, or the first part, is taken up with an account of the general action of medicines, which is more full and complete than we find in any other work. Part II. treats of the classification of medicinal agents, occupying some sixty more pages. In our notice of Pereira we have stated that this very copiousness has been considered a defect, obliging the student to go over ground which he has to traverse in other works, and while pursuing other collateral branches of medical science. It cannot, however, be denied, that there are some advantages attending it. It enlarges the view, and enables us to take a more intelligent and comprehensive grasp of the subject, when it is presented to us in all its bearings and all its relations.

The work of Professor Thomson will not admit of analysis; but there is one article which he has been chiefly instrumental in introducing into practice, to which we wish to call the attention of the profession, as from some late trials, we are induced to believe that it is one of extraordinary power and efficacy. We mean the *ioduret of arsenic;* or according to the latest chemical nomenclature, the "hydriodate of the protoxide of arsenic." This medicine is easily prepared, by gently heating, in a tubulated retort placed in a sand-bath, a mixture of one part of finely pulverised metallic arsenic, and three parts of iodine; the iodide is afterwards to be sublimed, in order to separate the excess of arsenic; this compound is soluble in water. It may, also, be prepared by triturating together 37 parts of metallic arsenic, and 126 of iodine, or boiling these together, and evaporating the filtered solution to dryness. This medicine is one of the most powerful excitants in the materia medica, and must be given with great caution. It may be administered with the greatest advantage in obstinate cutaneous affections, in doses of the tenth of a grain, twice a day, gradually increased to one-sixth of a grain. As a local application, three grains should be combined with an ounce of lard. In corroding tubercular skin diseases, this application will prove nearly a specific.

In a late letter which we have received from Professor Thomson, he thus speaks of this remedy: — "I have lately made many experiments on the combination of iodine and arsenic, viz., iodide of arsenic; and have every reason for thinking that it will prove a most valuable addition to our materia medica. It operates on the capillary system as a powerful alterative, and it is the only substance which, in my hands, has ever checked the progress of incipient cancer. I have also verified its influence in the cure of impetigo of many years' standing." We commend this work of Professor Thomson, as in every respect worthy of his exalted reputation.

C. A. L.

A Flora of North America; containing abridged Descriptions of all the known indigenous and naturalized Plants, growing north of Mexico; arranged according to the natural System. By JOHN TORREY and ASA GRAY. Vol. I. Parts 1 and 2. New-York, Carvill and Co. July and Oct. 1838. 8vo. pp. 360.

WE hesitate not to pronounce this the most valuable and important botanical work hitherto attempted in the United States. It is an attempt to describe all the known plants in North America, and to conform the descriptions to the present improved state of botanical science.

This herculean labour has been undertaken by Professor Torrey, after many years of arduous preparation, and aided by every botanist of any note in the country; and the manner in which he has thus far executed his task, is in the highest degree satisfactory. It is no disparagement to our other botanists to say, that no one could execute this work so well as Dr. Torrey. When completed, the work will comprise three closely-printed octavo volumes, of about 550 pages each. The first volume will include the exogenous polypetalous plants, and will occupy three parts, of about 184 pages each. Two parts have been published, and the third will appear soon after Dr. Gray's return from Europe, where he has gone to gather materials to render the work still more perfect.

We perceive that Mr. Nuttall, the distinguished naturalist, is an extensive contributor to the work. He has communicated to Dr. Torrey his notes and descriptions of the plants collected in his recent journey to Oregon and California, by way of the southern ranges of the Rocky Mountains. These collections are represented as very interesting, and comprise a large number of new genera and species, a considerable portion of which were obtained in a region never before visited by botanists.

The value of this publication would be greatly enhanced, especially to physicians, who are, after all, the chief patrons of such works, were the medical properties of the plants added to the technical descriptions. We sincerely hope that this omission will be supplied in the forthcoming numbers. This will not at all interfere with the main design and unity of the work, while it will render it an invaluable guide, or *vade mecum* to the physicians of our country, in investigating the virtues of our vegetable productions. Practical utility should never be lost sight of, even in the most technical and scientific productions. In this country, especially, such works must bear this character, or they will be but very poorly patronized, whatever their other excellencies may be. We hope that the able and indefatigable authors will take this matter under consideration, and if not inconsistent with their plan, comply with our suggestion. We wish them all success in their arduous enterprise.

C. A. L.

Chemistry of Organic Bodies.—Vegetables. By THOMAS THOMSON, M.D. London, 1838. 8vo. pp. 1076.

THIS work treats of a branch of medical science hitherto but very little cultivated in this country. But few have ever attempted its cultivation, and the profession has gone on administering drugs, without knowing, or apparently caring, to what principles their efficacy was owing. Some have even gone so far as to decry vegetable chemistry; but we have never heard that those individuals proscribed quinine, morphine, strychnine, and many other important remedies, the product of chemical analysis. We admit that many articles, such as rhubarb, owe their peculiar properties to a combination of principles; and that these properties would be, in a great degree, nullified, or perhaps destroyed, by a chemical process; while at the same time we maintain, and have abundance of facts to support us in the opinion, that we are indebted to chemistry for many of our most valuable remedies, and that we are to look to her aid for still greater discoveries.

In this valuable work Dr. Thomson has aimed to lay before the public a pretty full view of the present state of the chemistry of vegetable bodies. Such a work was much wanted, *to post up*, to use a mercantile phrase, the results hitherto obtained by the different labourers in this wide-extended field. Within a few years past, particular attention has been paid to this branch of medical science in France and Germany, where several hundred new substances have either been discovered, or their characters determined with such precision, and their composition investigated with such accuracy, as to give a pretty accurate idea of their constitution and their connection with each other. But very few of the ultimate analyses contained in Professor Thomson's work have been made in Great Britain, and we are not aware of a single one made in this country, if we except that of sanguinaria canadensis, by the late Dr. Dana; all the rest have been made in France and Germany. If we recollect, Dr. Prout was one of the earliest British physicians who entered on such investigations, and it was only in 1827 that he published his analysis of sugar, starch, lignin, and some of the vegetable acids. Professor Thomson himself has accomplished more in this field than any other British chemist, though, lately, we perceive that several others have begun the investigation of vegetable bodies, particularly Dr. Gregory and Mr. Kane of Dublin, from whose experience, skill, and sagacity, we have reason to expect the most important results.

The work of Professor Thomson we consider defective in one very important particular, viz., it contains no minute directions of the best method to be employed for obtaining an accurate analysis of a vegetable substance. The author apologizes for this on account of the great and unexpected size to which his volume had swelled. We cannot, however, but believe that it would have been far more acceptable, had a few of the less important analyses been omitted, and their place supplied by detailing his mode of analysis. He, however, promises it in his next volume on "Animal Substances," which he is about issuing from the press; but with all due deference, we think it would be out of place in such a treatise, as much an excrescency *there*, as its *absence* is a defect in the former. As another reason for this important omission, Professor Thomson states that two German chemists, Liebig and Dumas, have given very full details of their mode of analysis, together with accurate figures of the apparatus, so that every chemist who peruses it with care, will find no difficulty in analyzing any vegetable substance whatever. But every chemist cannot read German, and in this country, at least, it is difficult to procure German works when we can read them. We should feel highly indebted to Professor Thomson if he would give us his own mode of analysis, and also, if he chooses, a translation of the articles of Dumas and Liebig. We already have a translation of Professor Mitscherlich's work, and as to the analysis of Rose, Pelouse, and other French chemists, we will avail ourselves of the French journals for such information as they can give us. We hope in the next edition of his work Professor Thomson will supply the deficiency above-mentioned, though, as it is, no medical library can be complete without it.

C. A. L.

A Dictionary of Materia Medica and Practical Pharmacy, including a Translation of the Formulæ of the London Pharmacopœia. By William Thomas Brande, of her Majesty's Mint, Professor of Chemistry and Materia Medica to the Apothecaries' Company, Fellow of the Royal Societies of London and Edinburgh, &c. &c. 8vo.

From the well-known character of the author, and his position as Professor of the branches of which he treats, to the Company of London Apothecaries, we opened this volume with high expectations; nor have we been disappointed. The pleasure and profit derived from its examination have amply repaid us for the time and labour bestowed. The previous works of Professor Brande have won for him, both in England and America, an enviable reputation, as a man of science, which the present production is calculated to advance. His "Manual of Chemistry" has, for many years, been a text-book in most of our colleges and schools; and the "Dictionary of Materia Medica and Practical Pharmacy," though more unpretending in its character, will, we think, become the *vade mecum* of every physician and apothecary. It is a work essentially practical in its design and construction. It is not offered as an elaborate treatise on the materia medica, nor has it been the ambition of the author to promulgate new theories, ingenious, but perhaps fallacious; pleasing the imagination, but misleading the judgement. He lays no claim to originality. He has followed the beaten path, but improved the road. The characteristics of the work are simplicity of arrangement and clearness of diction. It exhibits no redundancy of language, no scientific mysticisms, which only bewilder the inquiring student; conciseness and perspicuity having been the aim throughout. The arrangement, as the title indicates, is alphabetical; no classification is adopted. In connection with the botanic and therapeutic history of each article, are grouped together the various formulas for the officinal preparations of which it forms a component, or principal ingredient; so that at a glance we have the whole before us. As those only are given which are sanctioned by the London College of Apothecaries, some preparations are omitted which are to be found in the American Dispensatory. Upon examination, however, it will be seen that no important one is wanting. The work is rendered doubly valuable to the young and inexperienced practitioner, by the various recipes annexed to each article, embracing all the objects for which each is usually given.

Under the head "Abbreviations," Professor Brande throws out a hint which deserves more minute notice. "In Latin prescriptions," he observes, "many words, and sometimes all of them, are more or less abbreviated: but the custom is a bad one, inasmuch as it frequently leads to mistakes, and to a careless and slovenly mode of expression, and is often indicative of haste, or of ignorance. Young practitioners, especially, should write their prescriptions at length, as useful practice in Latin, and as obviating errors of the compounder; carefully avoiding, at the same time, all circumlocution and learned affectation of language." In these remarks we most heartily concur. Many instances have come under our own notice, in which the judgement of the apothecary alone has prevented a fatal mistake. An accidental flourish, or a blur in the paper, has transposed the mark ʒ into ℥ and this, too, when a powerful poison was the ingredient. The Professor's recommendation is certainly a judicious one, that the whole be written out distinctly, so that the risk of error on the part of the compounder be thereby lessened. We question much, however, the practicability of carrying out, in this country, the London plan of giving all the directions respecting the mode of using the prescriptions in the Latin tongue, though we highly approve of it. We approve of it because, in our judgment, there should be a common language used, understood alike by prescriber and compounder, independent of the vernacular language to which each may have been born. The present state of the art of pharmacy in this country by no means warrants the belief that such is the case. That there are many druggists in our city, fully competent on this point, we freely admit. They constitute, however, but a small minority. The day, we hope, is not far distant, when the same can be said of all. The druggists in our leading cities are awakening to a due sense of their own importance in the community. The College of Pharmacy in Philadelphia has already led the way, and effected a vast improvement in the profession there, and her sister institution in our own city, though still in her infancy, struggling with difficulties, and but too much neglected by those who should cherish her, is exerting herself nobly in the cause.

Professor Brande, we are glad to see, insists most strenuously upon certain points which have been too lightly touched on in our Pharmacopœias. In the article "Tinctures," for example, he urges the importance of decanting and filtering the *whole* of the liquor from the dregs, so soon as the prescribed time for maceration has elapsed. This may appear a trivial matter, but it is, in reality, one of moment. For if the liquid be suffered to remain, and is only poured off as occasion requires, an article of various strength is at different times obtained. This is only one instance, out of many, which might be adduced, of the author's extreme attention to accuracy in officinal preparations.

One portion of the volume we have perused with regret, for, in a moral point of view, it may be productive of harm. In the article "Opium," Prof. B. enlarges, somewhat on the habitual and excessive use of this drug. An opinion has been lately broached by Dr. Christison of Edinburgh, which he attempts to establish by facts, that the daily and long-continued use of opium as a stimulant is not followed by those deleterious effects on the system which have been, heretofore, attributed to it. In this opinion our author appears inclined to concur, though he does not express himself with entire confidence. Still he rather advocates it, and goes so far as to say that laudanum might often be judiciously substituted for the wine, tea, and coffee, usually drunk. A faint approval, from so high an authority, carries with it full as much weight as a more decided one from an humbler source. Would it not have been as well to have paused for a moment, before advocating such a theory in a volume which will frequently fall into the hands of the young and inexperienced? There are many who are only deterred from the commission of an error by the fear that evil will ensue. Only convince them that may touch the "forbidden fruit" with impunity, and they will be easily induced to taste. Our author's remarks on this subject are in striking contrast with those on alcoholic stimulants. The constant and excessive use of these he warmly reprobates, and gives a graphic statement of the wretchedness it entails on its unfortunate victim.

The volume, as a whole, we repeat, is an exceedingly useful one; and we earnestly hope that some of our enterprising publishers will be induced to array it in an American dress, so that it may come within the reach of every student, practitioner, and pharmaceutist among us.

W. H. M.

Essays on the most importaut Diseases of Women. Part I. *Puerperal Fever.* By Robert Ferguson, M.D., &c. &c. &c.

Although several very excellent works have appeared, of late years, on the affections of women, we hail with great satisfaction the promise of a series of essays from the pen of Dr. Ferguson, a gentleman who by his talents and situation is peculiarly qualified to throw light on these important and interesting maladies. The subject matter of the first of these papers, — puerperal fever, — is of great interest, on account of the frequency of its occurrence, its occasional dreadful mortality, and from the diversity of opinion both as to its nature, and method of treatment as described by those authors who have written on it.

Dr. Ferguson distinguishes four forms of puerperal fever; the peritoneal, the gastro-enteric, the nervous and the complicated; and in the first chapter quotes the classification of other authors, as Clarke, Douglas, Tonellé, Gardien, &c. to show that these same distinctions, or very similar ones, have been recognised by them, and that where more numerous varieties have been laid down, they may very fairly be included in those he mentions. These distinctions are highly practical and well illustrated by a number of cases in the other chapters of the work; they show how absolutely necessary it is to discriminate carefully before we commence the treatment of what would appear almost to have been considered an entity under the term of puerperal fever. The now well-ascertained fact that this disease in one epidemic will be highly imflammatory or sthenic, in another typhoid or ataxic, while sporadic cases are of various types, explains why diametrically opposite treatment of "*puerperal fever,*" has been recommended and insisted on by writers of great celebrity and undoubted talent, but who have not witnessed or discriminated the disease under its various forms.

Dr. Ferguson states under the head of "*peritoneal form,*" that abdominal pain in these cases is of two kinds, the one transient, and *if uncomplicated* easily removed; the other far more serious, durable, and dangerous. "In both, the intensity of anguish, the seat of the pain included between the pubes and a line drawn from the superior crest of one ilium to that of the other; the precursory rigour followed by the hot fit; the time of attack, from the first to the fifth day after parturition, are all the same, and neither the pulse nor the degree of fever distinguish the one from the other." The truth of these remarks will be recognised by every one accustomed to obstetric practice; it is frequently extremely difficult to discriminate between 'after pains,' and peritonitis; there is, in fact, no diagnostic symptom to guide us, and Dr. Ferguson reiterates the observation laid down by Dr. Gooch, that, in these cases frequently, our only criterion is *to observe the effect of remedies.* The transient, or what we may perhaps call the simulated disease, in general, yields readily to appropriate anodynes, while the other, requires such remedies as are used to quell pure inflammatory action: we particularly call the attention of young practitioners to cases of this description as they are of frequent occurrence; we have been long in the custom of breaking them by a dose of castor oil with a full dose of hyoscyamus, and dry heat to the abdomen. Dr. F. remarks p. 16: "In the epidemic of 1827—28, this form was so prevalent along the banks of the Thames, that, being worn out with the incessant calls to visit the patients at their own houses, I directed the matron of the hospital to send, in the first instance, to all complaining of abdominal pain, two doses of Dover's powders, each containing ten grains, one to be taken immediately, and the other in four hours; if, notwithstanding this, the symptoms should persist, they were directed to send for me. After this, I think I had no occasion to visit more than one in five of the afflicted, as they did not require any other treatment." If, however, the complaint did not yield in six hours, he considered it diagnostic of the true disease, and treated it accordingly.

Of the permanent form, or the true puerperal peritonitis, Dr. Ferguson offers nothing new — it is an exaggerated form of inflammation, and for its successful treatment requires the most decided antiphlogistic measures. "It has four distinct stages; the first, or preparatory, marked by a shivering, a hot and a sweating fit, lasting from one hour and a half, to six hours, during which there is a sense of severe disease, and often much agitation of mind. The second stage is characterized by abdominal pain, fever, general turgor, hard, frequent, and compressed pulse, supine posture, and restrained breathing." With respect to these symptoms, we would remark that very extensive peritoneal inflammation frequently exists *without pain.* "The third stage is that of effusion, marked by an apparent amelioration in all the symptoms. The fourth is that of collapse, in which the countenance is changed; the respiration laborious; the surface cool, clammy, and slightly livid; the abdomen swollen; the pulse too frequent to be counted; the mind usually perfectly clear."

Second form, or fever with gastro-enteric irritation. — This variety, according to our author, assumes the general characters of a mild typhus, accompanied, from the commencement, with irritation of the mucous membrane of the intestinal canal; there is either no peritoneal affection, or it is very slight and transient, so as soon to be lost in the mass of constitutional symptoms which endure during the whole of the illness; it rarely terminates fatally without becoming complicated with some acute local affection; sometimes, it appears under a more exaggerated type, and we have an overwhelming and almost universally fatal typhus.

Third form, or nervous puerperal fever. — Dr. Ferguson remarks that this, in its pure form, is by far the most rare of the various kinds; although anomalous nervous symptoms frequently make a sudden attack during the existence of one of the other forms of this malady, and are characterized by "terror of mind, great coldness of the skin, much agitation, and by a sense of impending death from faintness and extreme prostration," all the puerperal symptoms are inconstant, irregular, and intense, while they last; the pulse is exceedingly rapid, and there is great restlessness and delirium which frequently gives way to fatal coma, or sudden syncope.

Fourth, or complicated form. — "This species is characterized by an appalling complication of symptoms, arising from the simultaneous or the rapidly successive attacks on distant organs and different tissues. It begins from the first to the third day with shivering, which very often, though not always, is followed by abdominal pain. The debility soon amounts to complete prostration. The mind is calm, and often wonderfully unconscious of danger. There is the rapid pulse and dusky skin of the second form, and the crimson patches on the cheeks which contrast so peculiarly with the dull glassy eye, encircled in lead-coloured lids. Sometimes the abdominal pain lasts during the whole of the brief period of the malady; sometimes it subsides in a few hours. Shortly after the abdominal attack, other organs begin to exhibit signs of disorder."

"In the majority of cases, the intestinal canal is the first of the secondary complications of disease, and then diarrhœa arises, which ends in dysentery, with tormina and bloody evacuations, or there is nausea terminating, at last, in coffee-coloured ejections." Afterwards, or coëtaneously, the lungs, pleuræ, stomach, heart, eye, or even the cellular and muscular tissues are attacked, and either rapid gangrene or extensive purulent deposites take place; the pus is not contained in cysts, but is irregularly effused through the part attacked — the depositions of pus are not critical, but often "so sudden as to have led Dance to believe them not to have arisen from any inflammatory process; he describes them as occurring *á l'insçu du malade et du medecin.*"

Dr. Ferguson mentions an interesting fact, that has been observed by others, and which we ourselves have often seen, i. e. the connection existing between puerperal fever and erysipelas. "I may say that these two maladies are generally co-existent in our hospital, and that when the mothers die of puerperal fever, their infants perish of erysipelas." He also mentions in another place the aptitude to attacks of erysipelas, of those who assiduously attend patients with puerperal fever.

"When this fourth form of puerperal fever is prevalent, and the characteristic of the epidemic, one in three dies in the London hospitals, I believe, under any treatment; and if the complications be many, this mortality will be still increased, and the most judicious and the most humane act is to shut up these receptacles forthwith. Such is the experience of William Hunter: — of those who have witnessed its plague-like ravages in the continental hospitals; — and such is mine. Happily, however, this form of puerperal fever exists with such fatality in hospitals alone. I believe that the single chamber of the pauper is more wholesome than the spacious ward of the hospital patient; while, in private practice, among the well housed, and well nourished, the milder forms are the commonest."

The second chapter treats of the morbid anatomy of puerperal fever: Dr. F. gives the results of a great number of dissections, and quotes the tables of Dugés, Tonellé, and others; this chapter is worthy of attentive study, as it indicates the value of particular symptoms in estimating the danger; and also, as bearing on the question of in what consists the essence of puerperal fever? These inquiries are of such a nature that it is impossible to make an abstract sufficiently brief for the space allotted to us, we must therefore refer to the work itself.

In the chapter where the author treats of the nature of puerperal fever, he declares himself a decided humoral pathologist; he says: — "The three following propositions embody my views of the source and nature of puerperal fever."

"1st. The phenomena of puerperal fever originate in a vitiation of the fluids."

"2d. The causes which are capable of vitiating the fluids, are particularly rife after child-birth."

"3d. The various forms of puerperal fever depend on this one cause, and may readily be deduced from it."

Dr. F. proceeds to quote a number of very interesting experiments of M. M. Gaspara and Cruvelhier, illustrative of the effects of the introduction of pus and putrid substances into the circulation; these prove most clearly the power of the vitiated fluids to produce sudden and extensive morbid changes, both general and local; yet, notwithstanding, we are not prepared to admit with Dr. F. that they will produce all the varieties of puerperal fever; or that even a majority of the cases of this disease arise from the cause just mentioned; some are thus occasioned without a doubt, but others, we think, are caused by an *impression of some putrid substances in the uterus on the nerves of the part*, and in these instances, the malady ceases almost suddenly on the removal of the offending cause — we have seen several such cases, and even our author relates some. Again, our belief is that by far the greater portion of the cases of puerperal fever are produced by morbid action of the solids, i. e. inflammation of some of the tissues of the uterus (produced by injuries or cold,) and extending thence either continuously, or by contiguity, to the neighbouring tissues: — we think we are borne out in these views by Dr. Ferguson's book, impartially viewed, and we much regret that we have not space to discuss this very important point more at large, but must content ourselves by thus briefly stating our opinion. The cases given by Dr. Ferguson are very numerous and highly interesting, and exhibit this malady in nearly all its varieties and gradations.

Treatment, where there is evident peritonitis, of course decided antiphlogistic treatment, must be had recourse to, — not only should we take blood from the system generally, but large numbers of leeches should be applied to the abdomen; we have always found especial benefit by the local abstraction of blood: Dr. F. suggests, what we have frequently recommended, viz: the application of a few leeches to the uterus itself; unfortunately we meet with violent prejudices against this treatment, although we are fully convinced of its value.

Where the symptoms of inflammation are not very prominent, no general rule can be laid down applicable to the majority of cases; regard must be had not only to the symptoms of each particular case, but the type of diseases prevailing at the same time should be considered; as what Sydenham has called the constitution of the year, considerably modifies both the nature of the disease and the success of any specific method of treatment.

Where there is much nausea and bilious vomiting from the commencement of the malady, ipecacuanha, given in sufficient doses to produce emesis, has been found of great advantage, and this, when necessary, should be repeated twice or thrice — this is the celebrated method of Doulcet.

When purgatives are used, great care should be taken to select those that do not produce tormina; the mildest aperients should be given, guarded by some anodyne, as the griping arising from irritating purges has frequently been the exciting cause of the disease. The author gives a long and ample list of the remedies that have been recommended by various writers, but it is impossible for us at present to follow him.

Dr. Ferguson rates the mortality of puerperal fevers at one in three, but this calculation must rest principally on epidemic cases in hospital patients; we feel convinced that in private practice, except during the prevalence of very bad epidemics, with judicious treatment, a more favourable view may be taken.

At the end of the work there are three analytical tables of 205 cases treated in the general lying-in hospital, showing at one view all the most important particulars relating to them; these tables are very valuable, especially by pointing out the results of different treatment.

We conclude by cordially recommending Dr. Ferguson's work to the notice of the profession, and we trust it will not be long before we are favoured with the other essays of which he speaks in his preface.

J. C. B.

The Dublin Practice of Midwifery, by HENRY MAUNSELL, M.D., *Member of the Royal College of Surgeons in Ireland, &c.*

THE author of the work before us does not profess to write an elaborate treatise on obstetric medicine; he proposes, merely, to confine himself to the outlines of the science, leaving to others the task of more extended inquiries. There is much to commend in Dr. Maunsell's Manual; its arrangement is good, and there are scattered through its pages, practical observations of a high character. He seems to have confined himself almost entirely to facts connected with bed-side practice; and this we hold to be the only efficient mode of writing profitably on a subject so copious in practical results as the science of midwifery.

Although, on the whole, we are willing to adopt the views of Dr. Maunsell, yet there are certain opinions promulgated by him, which, in our judgment, cannot be sustained. In the chapter devoted to the discussion of the "mechanism of parturition," he has certainly erred in stating the cardinal principles on which this beautiful process is based;

and we are the more anxious to admonish our readers of the fact, because a misconception of the laws governing the mechanism of labour will inevitably lead to the most disastrous results in practice.

Dr. M. adopts, in full, the views of Professor Nägele respecting the mechanism of labour in head presentations. At page 27, he observes: "In describing the mechanism employed in head presentations, I have adopted the opinions of Professor Nägele, being convinced of their general correctness. The student, however, is not to be disappointed if he should find himself unable to diagnose the *exact* position of the head in every individual case. It is, in fact, often extremely difficult to do this; and in attempting it, we are by no means warranted in inflicting any pain on the mother. A failure is of the less consequence, as the whole tenour of the facts ascertained by the excellent observer alluded to, goes to *discountenance the idea of its being ever necessary or expedient to change the position of the head.*"

Professor Nägele is certainly high authority, and the earnestness with which he puts forth his peculiar opinions, might to some, be a guarantee of their truth. Much, however, as we respect the fine talents of the learned Professor, and willing as we are to believe him sincere, yet we cannot admit the accuracy of his propositions, because, in our humble judgement, they will prove fallacious when brought to the test of practical experience.

For want of space to enter more into detail upon this subject, we shall confine our remarks to the proposition contained in the preceding extract, and which it will be perceived has been adopted by Dr. Maunsell. So far from its being "*never necessary or expedient to change the position of the head,*" we contend that the accoucheur who is well grounded in the principles of his art, will frequently have it in his power, by timely and judicious manipulation, not only to abridge the duration of labour, but likewise to save the life of the child, and often to preserve the mother from much physical injury.

For the purpose of illustration, we call the attention of the reader to the various presentations of the vertex at the superior strait of the pelvis. Baudelocque, as is well known, made six presentations of the vertex, while others have thought proper to increase or diminish this number. The occiput is found at one of the acetabula far more frequently than it is at either of the posterior points of the pelvis. The anterior wall of the pelvis, which consists of the length of the symphisis pubis, is only one-third the length of the posterior wall which is composed of the length of the sacrum and coccyx. Now when the occiput is situated opposite either acetabulum, the labour, *ceterus paribus*, will be only one-third the duration that it is when the occiput corresponds with either sacro-iliac symphysis, for the simple reason, that in the two former positions, it has to travel but one-third the distance it has to traverse in the two latter. But we will go farther, and state, that when the occiput is situated posteriorly, unless the head should be small, or the pelvis large, it will frequently be necessary to have recourse to the forceps. And according to the experience of some of the most accurate observers on the Continent of Europe, the woman, if left to her own unaided efforts, will in seven cases out of ten, be delivered of a still-born child.

We are not advocates for officiousness in the practice of midwifery. We have been too often called to witness the melancholy consequences of over action, not to use every effort in our power to enforce upon the recollection of the student, the absolute necessity of respecting, so far as safety will justify, the powers of nature. But there is a broad distinction to be made between officiousness and prudent interference, and this should always be kept in mind by every one who intends to engage in obstetric practice.

When labour has fairly commenced, it is the duty of the accoucheur to examine attentively *per vaginam*, with a view to discover the precise conditions of things at the upper strait. How is the mouth of the womb? Is it dilated, and to what extent? What is the presenting part, and how does it present? Is the pelvis such as will allow the child to pass without artificial aid? These are the cardinal points to which the attention of the physician must be directed at the commencement of labour; and they should not be neglected until such progress has been made in the descent of the presenting part, as will preclude the possibility of salutary assistance. Suppose, then, that on examination it should be discovered that the occiput, instead of corresponding with one of the acetabula, is situated opposite either sacro-iliac symphisis. Would it, after what has been said, be correct practice to "discountenance the idea of its ever being necessary or expedient to change the position of the child's head?" We think not. Under these circumstances, as soon as the mouth of the womb is sufficiently dilated to permit the introduction of the two forefingers and thumb, the practitioner, steadying the uterus with the other hand, should proceed with the utmost caution, by placing the two fingers on one parietal bone, and the thumb on the other, to move the head gently upwards, in order to cause an approximation of the chin and sternum, and then, with great care, gradually bring the occiput from the right sacro-iliac symphisis to the right acetabulum, or from the left sacro-iliac symphisis to the left acetabulum. By this simple manipulation the labour will be abridged one-third, and the chances for the birth of a living child will be increased at least ten-fold.

We cannot better close this brief review than by an extract from one of the most practical writers of the age, to whose kindness and personal instruction the writer of this article owes all that he may know of obstetric medicine. In speaking of the two posterior presentations of the vertex, Capuron observes: "Nous avons toujours été obligé de terminer l' accouchement avec le forceps, lorsque la téte de l'enfant et le bassin de la mère avaient leurs dimensions naturelles ou normales. Dans le cas, au contraire, óu l'accouchement se terminait par les seuls forces de la nature, le travail en était souvent trés long, ce qui entrâinât quelque fois la mort de l'enfant ou la deformitè de la tête; alors aussi le bassin était toujours plus large, ou l'enfant moins volumineux, qu'a l'ordinaire, ou ces deux avantages se trouvaient réunies."

Cours Théorique et Practique d'Accouchm. par J. Capuron, p. 200.

G. S. B.

Lectures on the Principles and Practice of Midwifery. By JAMES BLUNDELL, M.D. formerly Lecturer on Midwifery and Physiology at Guy's Hospital. Edited by CHARLES SEVERN, M.D, Registrar of the Medical Society of London. London, 1839. 12mo. pp. 568.

WE regard the appearance of this publication with mingled feelings of satisfaction and regret. The value of the Lectures of which Dr. Severn professes to give the substance, is so well established, that all cannot feel otherwise than satisfied, that through this additional channel they are brought within reach of the profession. The regret, on the other hand, is caused by the fact that these Lectures are issued to the public, even too a second time, not by the author himself, but by a mere editor, who owes his possession of them to the aid of a skilful stenographer. We trust it will not always be so; but that at some future day, we may see a systematic Treatise on Midwifery, by one who is so abundantly competent to furnish a book of the highest order, as Dr. Blundell. In the mean time, these Lectures, even in the form in which they are now furnished to us, may well be in the hands of every practitioner of Midwifery. Independently of the positive precepts of practice in which they abound, they possess a peculiar value in containing incessant cautions against improper and unnecessary interference in cases of Midwifery. These cautions cannot be too often repeated, nor two urgently made. The horrible mischief done by "meddlesome Midwifery," as Dr. Blundell quaintly calls it, in the hands of the ignorant and the rash, exceeds probably that of any other department of our profession. The vivid pictures of bad practice every where interspersed in these Lectures, and the expressive mode in which the student is warned against such errors, cannot be forgotten by those who have had the good fortune to hear them. Although, as now presented, much of the raciness and point which Dr. Blundell's peculiar manner gave to his oral instructions, is necessarily lost, sufficient is retained to give a good idea of his excellence as a Lecturer. We repeat, therefore, that we welcome the appearance of this publication with great satisfaction.

E. D.

Traité practique des Maladies Vénériennes, ou Recherches critiques et experimentales sur l' Inoculation, appliqués à l' Etude de ces Maladies, suivies d'un résumé thérapeutique, et d'un formulaire spécial; par Ph. Ricord, Docteur en Médicine, &c. &c. Paris, 1838. pp. 808.

With several wards of a hospital in a large city like Paris, devoted exclusively to the reception of patients with different forms of venereal disease, the profession cannot but look with interest to a work from the pen of so experienced, so enthusiastic, and we may add, so honest an observer as M. Ricord; while those who have witnessed his frank and candid manner, and have watched the skill and the success with which he manages this branch of practice, will attach additional value to this fresh proof of his industry, and ability. Disclaiming all theory, he stamps the title-page of his work with the noble sentiment quoted from Cuvier, that the discovery of the truth is the only end worthy of being kept in view.

The first and the larger part of the present work, contains the results of the author's experiments in the inoculation of the different kinds of venereal matter, and while it embodies a lasting testimonial to his industry and perseverance, proves incontestably, that the matter of the chancre will produce its like when inoculated on any part of the body, a fact which, at the same time that it settles the long contested question as to the existence of a specific virus as the cause of this disease, furnishes a valuable aid in the diagnosis of venereal sores. Whether this means of diagnosis will ever be made available by practitioners in general, and whether a too fond dependence on it under such circumstances might not lead to unfortunate results, is a question of more difficult decision.

M. Ricord alludes to the discrepancy, and indeed contrariety of results among authors respecting the artificial inoculation of syphilis, and thinks an abundant explanation of them may be found in the mistakes of some, the ignorance of others, and the bad faith of the majority.

The inoculation of venereal matter has been used since the time of Hunter for the following purposes:

1. To prove the existence of a special virus;
2. As a means of diagnosis;
3. To distinguish between the consequences of primary disease, and those of constitutional infection;
4. For therapeutic purposes, either to test the efficacy of preventive means, or to modify an old taint by a fresh infection, or to produce such a modification of an incurable disease as will bring it within the influence of special treatment;
5. For purposes of hygiene, and of legal medicine.

Our author, therefore, studies the subject under these points of view in the first part of his work; and in the second part, supports his positions by numerous detailed cases of inoculation of matter from different forms of primary syphilis, with results; his third part is rich with therapeutic principles and modes of practice, founded on a most extensive experience under the most favourable circumstances, and concludes with a formulary of the different remedies which he is in the habit of using.

The doctrine of a specific virus as the cause of syphilis, though admitted by the majority of writers on the subject, has been denied by some, and both parties have appealed to inoculation in proof of their side of the question. Our author recapitulates with considerable fulness, the different theories of the cause of syphilis and its mode of propagation, which have prevailed at different periods, and also furnishes a clear and complete review of all the leading opinions on the subject of inoculation from the earliest period at which it was first tried. Into a detail of these, our limits will not permit us to enter.

Nor do all who believe in a specific virus, yield equal credence to the capability of its inoculation. Lagneau attributes the discharge produced by the introduction into the urethra of a catheter smeared with the matter of gonorrhœa to mechanical irritation, and Cullerier, (uncle,) thought that the fluid which serves as a vehicle for the virus, should be endowed with a certain degree of vitality to ensure its effects.

The following seem to be the principal arguments which have been advanced against inoculation:

1. The negative or uncertain results of those who have practised it;
2. The inertness of matter from *secondary* ulcers, which should be more active, from the greater degree of infection;
3. If there be such a thing as general infection, a fresh infection should be impossible, from the impossibility, according to Hunter, of the existence of two diseases in the system at the same time;

4. The contagious property of venereal secretions depends not on the nature of the pus, but on the degree of inflammation of the part furnishing it;

5. The pus of gonorrhœa, which is a milder affection, should not be capable of inoculation; the contrary of which seems to be proved by the experiments of Hunter.

Our author discusses these several points, and exposes their flimsiness and their fallacy. He also satisfactorily answers the objections advanced by M. M. Cullerier and Ratier in their article "Syphilis," in the Dictionary of fifteen volumes, and quotes from their own article on "Inoculation" in the same work, the opinion that the inoculation of matter from a chancre or primary ulcer produces a morbid phenomenon which is constant in its form, and regular in its progress and duration, and which furnishes a pus, susceptible, in its turn, of being communicated by inoculation.

The difficulty with writers on the subject before the time of M. Ricord, seems to have had its foundation in the want of a sufficient number of accurate observations, from which to make their deductions. Experiments in inoculation were liable to the contingency of being imperfectly or unskilfully performed, or to the objection of having been made with reference to some preconceived theory or notion. Authors, also, were too fond of quoting results from wholesale statements of experiments, without any detail of the cases, or any guarantee of their accuracy and true value, or of arriving at hasty conclusions, from a small number of cases, which could perhaps not bear the most rigid scrutiny. Among these was Devergie. Our author, however, has laid a broad and deep foundation for his positions in the result of numerous experiments, made with the greatest caution, and observed with the greatest accuracy for several successive years, in a field which is surpassed by none for facilities, and open to the inspection of all; and it is his rich collection of facts, gathered under so favourable a combination of circumstances, which stamps his work with such a value in the eyes of the inquirer after truth. As must necessarily be the case, the result has confirmed some, and destroyed others, of the conclusions often too hastily drawn by preceding writers.

The necessity of some other diagnostic mark of a syphilitic sore than is at present known, must be felt by all who have experienced the uncertain evidence afforded either by seat, form, sensibility, appearance, progress, or treatment, all of which are liable to so many modifications as to keep us often in doubt, and we shall therefore hail with pleasure the prospect of a sign so simple, incontestable, and pathognomonic, as inoculation claims to be, without having to refer for the certainty of our diagnosis to a train of secondary symptoms, which are always annoying, frequently lead to exposure, and are sometimes fatal in their consequences.

Our author condemns, with justice, the exposure of a healthy person to the virus of syphilis by artificial inoculation, for the sake of science. He has repeated his experiments on several kinds of animals in different ways, with the greatest care, and with pus which had produced positive results in man, and always without the least effect; and hence concludes, that the inoculable principle is peculiar to man, and cannot be communicated to brutes.

He lays down the following propositions as the basis of his observations:

1. A *previous* venereal infection, whether already cured, or still existing, does not prevent a fresh infection, in any stage of its progress; and the number of possible successive infections is without limit.

2. Primary symptoms never appear in an individual actually infected with secondary symptoms, or with primary symptoms alone in a certain part, without either fresh contact of matter from the primary sore, or its communication by another individual.

3. Secondary symptoms never prevent the attack of fresh primary symptoms.

4. The frequency in the occurrence of secondary infection bears no direct relation to the number of primary sores at the commencement.

It was a remark of Hunter, which is verified by daily experience, that a first infection does not prevent a second,

The last of the preceding propositions, on the infallibility of which depends the authority to pursue such researches, and according to which, a patient is no more exposed to secondary symptoms after two, three, four, or five chancres, *contracted at the same time*, than after a single one, M. Ricord says, is based on facts derived from an experience of six years, and admits of no doubt.

The investigations of our author lead him to consider chancre as the consequence of a specific pus, secreted by itself alone, and which produces a disease identical with itself, wherever deposited, under circum. stances favourable for such a result. *Seat* has so little to do with its specific nature, that it cannot be considered as peculiar to the genital organs, but every part is liable to it, and wherever developed, on the end of the finger, or the thigh, the tongue, &c., it preserves all its characteristic marks, without exception.

This specific pus is only furnished by a chancre during its increasing or its stationary *ulcerative* stage, and not during the stage of *reparation*, a distinction of practical importance, the neglect of which has, probably, given rise to much of the uncertainty and controversy which have existed on the subject.

For an accurate and graphic description of the pustule of inoculation during its progress, we must refer to the work itself. The results of inoculation are so regular, and so constant, that M. Ricord has been led to lay down the following propositions:

1. A chancre can be recognised at first sight and absolutely, only by the pus it secretes, and the infection to which this pus may give rise, a secretion which is always identical, and always followed by the same general results.

2. The pus of a chancre alone will produce a chancre.

For the production of a chancre, there is no necessity for venereal excitement, nor for the venereal act, nor for any previous excitement of the part to be inoculated.

There is no limit to the reproduction of chancres with bad management. Every insertion of matter is followed by a pustule, and this by a chancre, and on the exact spot, and no where else.

It results from his experiments that chancre is always a local disease at its commencement, and that ulcerations, completely destroyed by caustic or otherwise, during the three, four, or five days following the application of the cause, do not expose the patient to secondary symptoms. Also, that the indication of chancres commences about the fifth day, and until this takes place, there is every reason to believe the disease to be only superficial. Indurated chancres are those most liable to be followed by secondary symptoms.

M. Ricord follows the division of syphilitic symptoms into primary and secondary, so universally recognised, and commences by bringing to the test of inoculation the forms which belong to the first order, *blenorrhagia*, *chancre*, *primary bubo*, and *mucous tubercle*, or *flat pustule*, as it is called, which may be either a primary or secondary symptom.

The great service rendered to the profession by our author in affording us the aid of the speculum uteri in our examinations of the female organs of generation, and the light thus thrown on some points before involved in much obscurity, and the source of much error, is familiar to all our readers. In the numerous cases which he has examined, he has never found a chancre communicated by a discharge, without ulceration of the genital organs at the same time, and this result is also confirmed by inoculation. Nor will the matter from the erosions and ulcerations of the vagina or neck of the uterus, which not unfrequently accompany blenorrhagia, communicate true chancre by inoculation any more than the purulent secretion without ulceration. From this he feels himself authorized, by the strictest analogy, to conclude, that whenever a gonorrhœal discharge from the urethra communicates a chancre to a female, there is, besides this affection, a chancre in some portion of its extent.

His experiments authorize him to say, that the matter of blenorrhagia will produce chancre under no circumstances whatever; it may give rise to excoriation, like any other irritant, but can never develope a specific ulcer. Also, that constitutional syphilis is never the effect of blenorrhagia; the diagnosis in the cases in which this was supposed to be true, not having been accurate, and the affected surfaces not sufficiently examined, and that the only exact mode of diagnosis, in the present state of science, is inoculation.

The experiments of our author entirely controvert the idea of a plurality of poisons, and prove that the different forms of syphilis depend on causes foreign to the specific cause, as the constitution of the patient, preceding or accompanying diseases, his general health, and the previous local or general treatment. Phagedenic sores may be communicated by the mildest form of ulcer, and hence, the opinion maintained by some, that a severe form of disease is the effect of a form equally severe, is entirely without foundation.

Inoculation also enables the difference between those two distinct periods of chancre, ulceration and reparation, to be well established. The specific ulcerative period is without limit in its duration, as long as the character of the primary sore is preserved. Ricord has inoculated with success the matter of ulcers eighteen months old.

Of the different forms of *bubo*, our author says, that the one resulting from the absorption of the pus of chancre, is entirely analogous to chancre in its nature, and only differs from it in form, and in seat; that it is the only kind capable of giving rise to the characteristic pustule; also, that inoculation is the only infallible and pathognomonic diagnostic mark between the different kinds of bubo; and that those buboes which are not capable of being inoculated, (when the operation is properly performed,) are never followed by secondary symptoms, and hence, are not syphilitic, and that this test should always be applied in the suppurating stage of those buboes not preceded and unaccompanied by other symptoms, or *bubons d'emblée*, as they are called by the French.

His researches have led to the establishment of a most important practical distinction between *superficial* and *deep-seated* buboes, which proves that the difference between these two orders of glands so much insisted on by Desruelles should be carefully kept up, this is, that absorption from a chancre on the genital organs only takes place in the *superficial* glands, and most frequently in only one at a time, although several of both orders may be inflamed or swollen at the same time. *Deep-seated* buboes very rarely suppurate, and when they do, the matter is never capable of being inoculated, unless infected by specific matter from a neighbouring chancre, or superficial gland, as they are never infected by absorption. M. Ricord says, that it may be positively stated, that the absorption of virulent pus, preserving its power of being inoculated, never passes the first gland in the direct line of absorption with the chancre which precedes it.

The matter from a lymphatic vessel which has suppurated in consequence of absorption of pus from a chancre, is capable of being perpetuated by inoculation, as is also that from an abscess in the cellular tissue which has been infected by infiltration of matter, from a similar source, beneath the skin.

Our author admits the occurrence of syphilitic buboes, without any other precursor than a suspicious connection, and without accompanying syphilitic symptoms, or *bubons d'emblée*, and quotes several striking instances of the kind. He says that they appear most frequently in the deep-seated glands, and, what is remarkable, never furnish an inoculable pus, and that he never saw a bubo with all the rational signs of this species, the pus of which would produce the characteristic sore, and that after the most careful observation, he has never known them followed by constitutional symptoms.

The symptoms known under the different names of *mucous tubercle, mucous pustule, flat pustule*, &c. &c. which has been considered by some as a primary, and by others as a secondary symptom, and which seems to be a sort of connecting link between the two, has always given a negative result in many varied forms of inoculation which M. Ricord has practised. He has sketched with much clearness several interesting points connected with this symptom, which deserves a careful study. He arrives at the conclusion that it cannot be communicated by inoculation; that it belongs to the class of secondary symptoms, and is a proof of constitutional infection; that when syphilis has been communicated by a person with this affection, it is because there was, at the same time, some other affection specifically contagious; and that, like other secondary symptoms, the true mucous tubercle can only be communicated through the constitution.

The experiments of Ricord fully establish the results of Hunter, that secondary symptoms cannot be communicated by inoculation. Many good observers who have agreed on this point, have still been deceived by symptoms which, from their seat, or time of appearance, seem at first sight to depend on a general infection, as primary ulcers of the lips, tongue, and even of the pharynx, which have been communicated by direct contact, and are inoculable; this is especially the case with primary affections of the anus, the true origin of which patients are very apt to conceal.

From his experiments on this point, two conclusions of some practical value are to be drawn:

1. A symptom does not cease to be syphilitic because it is incapable of being inoculated; for, though it has lost this property, it may still be hereditarily transmitted.

2. Every symptom capable of being inoculated is the result of *direct contagion*, and not of *general infection* from absorption of virus; and hence, affords no proof of *constitutional infection*.

M. Ricord quotes some experiments from M. Calderon to prove the prophylactic power of certain agents in the communication of syphilis, and enumerates several articles which have the power of destroying the virus, for which we must refer our reader to the work itself.

As to the *therapeutic* powers of syphilitic inoculation, to which but a few remarks are devoted, they are, to say the least, of doubtful advantage, and find no warrant in the present state of science. In summing up his remarks on the light afforded by inoculation in deciding upon the course of treatment to be pursued in a given case, M. Ricord says, that to those who believe in the necessity of mercury in the treatment of primary syphilis for its radical cure, and who think that it ought not to be given indiscriminately, inoculation is doubtless the only infallible touchstone in every instance in which it is properly used, and that, if at some future day, that remedy is better appreciated, or some absolute specific for syphilis is found, inoculation will test its value, and point out the proper cases for its employment, and that, even in the present state of science, it affords important aid in the prognosis, by proving that *every individual who has had inoculable symptoms, is liable, at a later period, to constitutional symptoms.*

M. Ricord thinks that inoculation may also prove of service in legal medicine, both in aiding to clear the innocent, and in assisting in the detection of the guilty.

The second part of his work consists of a detail of numerous cases, traced through the different stages of their course, in which inoculation of different kinds of matter was practised, with the results; at the close of which are the statistical tables of the cases on which his conclusions are founded. From these we learn, that in 748 cases of *primary* syphilis in males, and 301 in females, making 1049 cases in the whole, the characteristic pustule followed inoculation; while in 62 cases of symptoms of the *transition* class (or chancres during the stage of reparation,) 399 cases of *secondary*, and 57 cases of *tertiary* symptoms, in both sexes,* no such result followed the introduction of the matter. The same negative result was witnessed in 985 cases of venereal affections in both sexes, not dependent on specific virus, as sympathetic buboes, acute and chronic blenorrhagia, vegetations, &c. He also gives 74 cases attended by negative results in diseases entirely foreign to the venereal, as ulcers, and abscesses of different kinds, cancer, &c. The value of these results he strengthens by those obtained by M. Mairion of Louvain, in 257 cases, during the year 1836, which perfectly agree with those of M. Ricord in all essential particulars.

The therapeutic summary which forms the third and last part of M. Ricord's work, is not intended to embrace the whole subject of the treatment of syphilis, but only to point out the practice which he has found the most effectual. He therefore details minutely the indications by which he is governed, without entering into the history of the symptoms.

He recognises two distinct orders of venereal diseases; chancre, of which the venereal virus is the cause, and to which the name of *syphilis* should be restricted; and *pseudo-syphilis*, or affections not virulent, as blenorrhagia and its consequences, simple ulcerations, phymosis, paraphymosis, &c.

He premises this part of the subject with the prophylactic treatment of primary venereal symptoms, in which he presents a plan for the general diminution of the disease, and gives directions for individual protection from exposure.

His opinion is that, although the primary syphilitic sore frequently heals without any treatment, and even under much that is improper, still, every effort should be made to destroy it at first, and in every case, to lessen its duration.

He lays it down as a rule, that "chancre at its commencement, whatever may be its form, *imperiously demands the abortive method of treatment*," and says that no authentic observation exists of ulcers destroyed before the first 5 days after infection, which have given rise to secondary symptoms, if these ulcers are the only symptom, and were uncomplicated.

Three modes have been proposed for the destruction of chancres; excision, actual cautery, and mediate or perturbing cautery.

Hunter thought *cauterization* preferable to *extirpation* when the sore is on the glans penis, because this is less sensitive, and less exposed to hemorrhage; while excision is to be preferred when the sore is on the skin. M. Ricord thinks the subject can be settled with more precision by studying the differences presented by chancres at their origin, and hence considers them under the head of 1st, original pustule; 2d, ulceration, or *chancre d'emblée;* 3d, virulent abscesses.

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* By *tertiary* symptoms, M. Ricord means nodes, deep-seated tubercles, periostoses, exostoses, caries, necroses, syphilitic tubercles of the brain, &c.

1. *Original pustule.* — This form, which is the one most rarely met with, and which may easily at first be confounded with eczema or herpes, when attacked early, is destroyed by cauterization properly performed. He says, whenever, within a few days after a suspicious connection, a pustule is found on the parts exposed, *whatever may be its nature, and without insisting on an accurate diagnosis*, the parts forming its base must be divided and cauterized deeply. The importance of preventing the developement of a chancre more than counterbalances the slight pain inflicted in cauterizing a herpes or eczema. The caustic to which he gives the most decided preference is the nitrate of silver in pencil, pointed so that it can be insinuated under the edges of the ulcer left by the rupture of the pustule.

When seated on tissues movable and easily isolated, he would prefer excision if patients were not so very averse to it. This operation must be performed with curved scissors, and must include the removal of some of the sound tissue, cutting out a little too much, rather than not enough.

2. When *ulceration* has taken place, which is the most common form, the abortive treatment is the same as in the primary pustule, either cauterization or excision.

3. *Virulent abscesses*, or chancrous sores following abscesses which have been preceded by inflammation, and are seated in a follicle, in the cellular tissue, in a lymphatic vessel, or a gland.

When there is engorgement of one or more follicles, excision must be adopted without hesitation, and followed by the application of the nitrate of silver. The same treatment must be adopted in follicular abscess of limited extent; but when more extensive, the abscess must be punctured to discharge its contents, and its cavity thoroughly cauterized. The same is true of small circumscribed abscesses of the cellular tissue near a chancre, caused by absorption — when seated in lymphatic vessels or glands, they must be treated like buboes.

But besides the application of the nitrate of silver in this way to produce the *abortion* of chancres, M. Ricord lays it down as a rule founded on daily experience, and which he cannot too often repeat, that, whatever the time which may have elapsed, or the form in which a chancre first appeared, provided its seat and extent do not forbid, it must be destroyed as rapidly as possible. He says that in the cases of constitutional affection which he has collected, the chancres had never lasted less than 10, 12, or 15, days, in the rarest number of instances; and that, in the great majority, they had lasted 3, 4, 5, 6 weeks or more. Hence he concludes that the treatment, whatever it may be, which cures the local disease the most speedily, is decidedly the best anti-syphilitic.

When the surrounding tissue is in the least engorged, or the chancre has reached a certain limit, the action of the nitrate of silver does not extend deeply enough, and excision is preferable. In such cases, M. Ricord had been very successful with caustic potassa, and still more so with Vienna paste, a combination of a solution of potassa in alcohol with quick-lime, for the preparation of which he gives a formula. The latter he prefers: it requires to be used with caution, and not to be applied more than a line or two beyond the part affected, and there are circumstances in which its application would be improper.

When the preceding means cannot be used, or do not succeed in destroying the specific character of the sore, certain cautions must be observed in treating it.

As the presence of the secretion is a cause of the disease constantly in action, it must be removed by repeating the dressings according to its abundance, 3 or 4 times a day.

Scabs should also be prevented from forming, as they afford an opportunity for the matter to burrow.

Cauterization with nitrate of silver must be repeated as long as any part of the chancre remains in the ulcerative stage; but should never be applied to parts in the stage of reparation.

Greasy applications, and especially mercurial ointments, are injurious, and frequently cause the diseased part to extend, or to become inflamed.

At the same time that means are used to prevent the contact of the matter secreted by a chancre with the sound parts, measures must also be employed to diminish that secretion. For this purpose M. Ricord is very partial to *vin aromatique*, a preparation of red wine with several aromatics, of which he gives the proportions at the end of the work. This, he says, diminishes the secretion, favours cicatrization, and by operating as an active astringent, prevents the possibility of inoculation. The watery extract of opium may be added to this, in the proportion of 8 or 10 grains to the ounce, when the pain is severe; the addition of tannin to it is also useful when the purulent secretion is abundant.

The diet and regimen must be regulated according to the constitution of the patient.

M. Ricord makes 3 forms of chancre in a therapeutic point of view:

1. *Masked chancres*, ("chancres larvés") or chancres seated in the urethra, vagina, and inferior parts of the rectum or anus.

2. *Superficial chancres.*

3. *Phagedenic chancres:* of these he makes three varieties:—(*a*) *pultaceous plastic*, a form which he considers as most frequently connected with derangement of the digestive organs. (*b*) *Indurated.* (*c*) *Gangrenous*, from excess of inflammation.

He enters into the details of the applications suited to these different forms, in all the varied phases which constitutional or local causes may impress on them, with a tact which proves that they are as familiar to him as names of household things, and with a minuteness which our limits forbid us to attempt to transfer to our pages.

He recognises the principle acknowledged and acted on by the most judicious practitioners of the present day, and the truth of which, indeed, the experience of anti-mercurialists themselves establishes, if possible, on a still more firm basis, that mercury, if not absolutely essential to the cure, is the most speedy and the most effectual means of controlling the form of chancre, accompanied by *induration*, and also one form of the plastic phagedenic chancre.

In the treatment of *bubo*, our author remarks, that whatever may be its seat, or its depth below the surface, rest, with systematic compression, will discuss it in a large proportion of cases. He has often observed, that in those who wore trusses for hernia, buboes very rarely appear on the side where the compression is made.

When the attempt at discussion by this means fails, he recommends, in some cases, covering the bubo with a small blister, and afterwards applying to the denuded surface a pledget of lint dipped in a solution of 20 grains of bi-chloride of mercury to an ounce of distilled water; this application to be continued 2 or 3 hours. This produces an eschar, is an irritating and painful process, and, besides, is liable to the serious objection of leaving an indelible mark; and hence, will rarely be submitted to by the patient, and is, probably, very seldom advisable.

In buboes, following simple blenorrhagia, excoriations, &c. where the tendency to suppuration is but slight, he recommends the solution of acetate of lead, solution of muriate of ammonia, iodide of lead with conium, simple poultices, &c., with entire rest; and when there is pain, leeches, followed by emollients and narcotics, and especially, the free use of laudanum locally.

When we fail in producing the resolution of a bubo, the indications of treatment are derived from its state, whether acute or indolent.

When febrile excitement exists, bleeding from the arm may be required, together with leeches about the base of the tumour. When there is no constitutional disturbance, leeches alone will answer, and it is always better to apply too many than too few; 20, 30, 40 — at the same time, general warm baths must be used (not *local*, which are injurious in such cases) with emollient poultices, and entire rest, placing the limb of the affected side in a state of flexion to diminish the tension of the aponeuroses. These measures must be accompanied by low diet, cooling drinks, and saline purgatives. Mr. Ricord says that flax-seed poultices produce, in many cases, an eczematous eruption which may extend very much.

If the bubo passes into the chronic or indolent state, resolvent applications must be used, beginning with the least active — motion must be avoided as much as possible; but when the patient is obliged to walk about, a mercurial plaster must be worn through the day, and at night, half a drachm of mercurial ointment rubbed in, and the part afterwards covered with a poultice, if there be any pain; — if not painful, pressure must be applied by means of a bandage with graduated compresses, or with a truss. If the frictions produce salivation, exchange the mercurial ointment for that of iodine or of hydriodate of potash, using the precaution to cleanse the surface perfectly before applying the latter ointment after the mercurial.

When all these means fail, the method before alluded to as sometimes used in the early stage, that of a blister followed by a concentrated solution of bi-chloride of mercury, may be tried — extirpation of the gland is sometimes resorted to, when all other measures have disappointed us — but Mr. Ricord prefers the destruction of them by escharotics in such cases.

Whenever the induration of a bubo has a chancrous origin, mercury must be resorted to.

M. Ricord advises to discharge the matter from a bubo as soon as its presence is certain, whatever may have been the previous treatment — the opening always to be made in the direction of the longest diameter. A simple puncture is sufficient when the abscess is of limited extent, and the integuments are healthy; when the contrary is the case, the whole extent of the undermined skin must be laid open. If the edges are very thin and of a bluish colour at the time of the incision, they must be removed by a bistoury, or what is better by curved scissors; or what is still preferable, by an escharotic, which not only removes the useless parts, but stimulates the surrounding tissues to healthy action. A painful degree of pressure must not be used to evacuate the pus after opening the abscess; baths, with emollient or narcotic poultices, must then be resorted to.

In cases of chancrous buboes, when their edges ulcerate, and the matter tends to burrow, or when they remain stationary, M. Ricord fills the cavity with powder of cantharides, and applies a blister over the whole. On the following day, if there be induration, he dresses the blistered surface with mercurial ointment, and the cavity with aromatic wine. If not, he applies simple cerate over the external surface, with lotions of acetate of lead, using the aromatic wine for the cavity, as in the other case, treating the true chancrous bubo as he would a chancre itself.

In all cases in which granulation takes place slowly and tediously, the powdered cantharides in the cavity, covered with dry lint, gives rise to exuberant granulations, which may afterwards require the nitrate of silver.

General measures must not be overlooked in the treatment of buboes. When acute, antiphlogistic regimen must be observed. In those of a lymphatic temperament, and those of a scrofulous diathesis, bitters and tonics are indicated, with nutritious, unstimulating diet — and in such cases, the proto-ioduret of iron, in doses of 10, 12, 15, 20 grains a day, in decoction of hops, or of saponaria, has succeeded in the hands of M. Ricord.

In his chapter on the *prophylactic* treatment of syphilis, our author, after repeating his observation that the rapid cure of the primary sore is the surest safeguard, remarks, that the practitioner who leaves an indurated chancre without general treatment, becomes, to a certain extent, responsible for accidents which may follow it; and that, of all the means to be used, mercury is the most prompt in its action, and the most efficacious. He says, this course must be pursued thoroughly, or not at all — attention to general health, both by observance of the rules of hygiene, and by the removal of, the different symptoms, unconnected with syphilis, which may occur, is very important in the general plan for protection from secondary symptoms.

One author commences his chapter on the curative treatment of secondary and tertiary symptoms with the remark that, if observations of the spontaneous cure of symptoms consecutive to syphilis are on record, they are exceedingly rare, and that constitutional syphilis is, perhaps, of all diseases, one of those which most imperiously demand the assistance of art.

He says the treatment of these symptoms must commence with their first appearance, and that no age or condition, no climate or season, afford any absolute contra-indication.

After some remarks on the importance of attention to the complications which may exist, and an examination of the different modes of treatment proposed and practised, he gives the preference to the mercurial, when not contra-indicated. He says that mercury is not a specific, but that it is the most certain, and the most effectual remedy within the present range of our knowledge. — He employs it according to no exclusive system, but in accordance with rules deduced from observation. We must pass over his remarks on this remedy, and also his modes of employing it; but must be permitted to present the following general views of our author on the subject. He says, that he does not conclude that the mercurial treatment has failed in its effects because its use has been continued a long time, or has been repeated, without effect; nor does he regard it as injurious because, when given in improper doses, or at improper times, it may have given rise to momentary evils; nor does he ask from it more than it can effect, namely, the cure of the existing symptoms, without perfect immunity, in every case, from their return.

Opium he considers a valuable adjuvant, and one which, in its different forms, either alone or in connection with other therapeutic means, ought never to be neglected in either the general or local treatment.

In the treatment of *secondary* symptoms, he recurs to mercurials, with the proper preparation and auxiliaries; into the particulars of the use of which, he enters (though not with any minuteness) in the different forms of syphilitic eruptions, ulcers, iritis, affections of the testicle, and fall of the hair and nails. He has found mucous tubercles yield to one mode of treatment so rapidly and so certainly that he considers it truly specific. He washes them, when not ulcerated, with the undiluted chloride of soda — this he dilutes, if necessary, so as to produce only slight smarting without pain — and afterwards, sprinkles them twice a day with calomel. Cases of long standing are thus cured in eight or ten days.

The next chapter is devoted to the consideration and treatment of *tertiary* symptoms, in which he passes in review, deep-seated tubercles of the skin and mucous membranes (or syphilitic lupus), pains in the bones, periostitis, inflammation of the bone itself, and gummy tumours — into the treatment of all which he enters at considerable length.

The next of the remaining chapters of his work are devoted to the subject of blenorrhagia, which, after some general considerations, he studies in its modifications in each sex, and in the varieties common to both sexes — to this, succeeds a short chapter on vegetations, and another on phymosis and paraphymosis, which closes his undertaking.

The length to which we have been unconsciously led in what was intended for a mere *notice* of M. Ricord's work, will prove the interest we feel in it, and the difficulty we have experienced in limiting ourselves in the transfer to our pages of the valuable information which it contains. In recommending the work as a practical guide in the treatment of a disease which, under its Protean forms, so often embarrasses the practitioner, and especially one whose experience in it has not been more extensive than falls to the lot of the majority, we will only add that, while our author has proved faithful to his motto, and has discussed the different modes of treatment in a way which shows that truth is his only object, he has given instruction to suit the varied and ever varying states of both constitutional and local syphilis, in a manner which proves that experience has been his teacher.

H. D. B.

The Principles of Diagnosis. By Marshall Hall, M.D. *Second American Edition; with Notes by* John A. Swett, M.D. 8vo. pp. 458. D. Appleton & Co. New-York, 1839.

A work, its author modestly affirms, "entirely destined for the young and inexperienced," but well calculated to render valuable aid to many of the profession, who have grown somewhat in experience as well as years. Dr. Hall's vast attainments in medical science have long been familiar to medical readers, and while the present work adds to his reputation for learning, it demonstrates his possession of a faculty not always found associated with learning, — the faculty of imparting knowledge in a perfectly clear and available manner.

This work is divided, primarily, into two portions; one exhibiting the sources of diagnosis, and comprehending the various sources whence the physician may draw his knowledge of diseases, their progress, and termination. These Dr. Hall has arranged under four general heads; the history; the symptoms; the effect of remedies; and the morbid anatomy. He has shown the value and necessity of all these to a perfect system of diagnosis; but upon the second, as its nature requires, he has bestowed most time and attention; the third treats exclusively of bloodletting, its effects being more certain, and, in a diagnostic point of view, more practically useful, than those of other remedial agents.

The other great division of the work relates to the "practice of diagnosis," and we think all who have read it, will coincide in our opinion, that the author has fully attained the object he has proposed to himself, (page 37,) "that its characteristic throughout, be brevity in statement, with fulness in the collection and arrangement of facts useful to the practitioner."

We might, did our limits allow, give an analysis of the contents of this division, and each chapter would furnish us a theme for commendation; but as we are writing neither a review nor a panegyric, we will draw our notice to a close, by advising those of our readers who feel the need of assistance in diagnosis, (and who among us does not?) to do more than read, to *study* Dr. Hall's "Principles." His omissions, (for he is not perfect in every point,) especially in the chapters on thoracic diseases, have been supplied by the American editor. And we are indebted to Dr. Bulkley, whose practical knowledge of cutaneous diseases is highly appreciated by us, for the valuable notes to the chapters devoted to that class of diseases. Thus completed, this volume is one of the most useful ever issued from the press; and the physician, who has not yet formed acquaintance with its pages, may rest assured that he has neglected a mine of information, not less deep than productive.

W. B. C.

The Surgeon's Vade-Mecum, or Handbook of the Principles and Practice of Surgery. Illustrated with numerous Wood Engravings. By Robert Druitt, M. R. C. S. London, 1839. 18mo. pp. 429.

There are times and occasions with every surgeon, when manuals or brief expositions of professional knowledge, are more willingly referred to than works of greater note. To the student, a well arranged epitome detailing the principles of pathology, the several forms of surgical disease, and the most approved modes of treating them, is of greater service than voluminous systems; in the perusal of which, on first entering upon his studies, he is but too apt to confound the obsolete with the established, the frivolous with the important, the erroneous with the true. To the practitioner already acquainted with the literature of his profession, the handbook is often useful in refreshing the memory on special topics; and to those whose taste or occupation rarely leads them to laborious research, it often furnishes important information, which, without such aid, would never have been obtained.

The little volume before us is coupled with no distinguished names; it lays claim to nothing new; its only recommendation is a modest one,—"a clear, concise, and orderly statement of facts;" but it has reached us as a stranger, and as such we give it welcome. The profession, especially in this country, has long been in need of a manual like the present. The author has posted up with uncommon perspicuity, almost all the modern improvements in British surgery; and we are acquainted with no other work of similar character in the English language, containing, in so small a compass, the same amount of correct and useful information.

Were it fit to speak of omissions in a work which takes its character principally from its conciseness, we would refer to some few points, as for example, Sir Astley Cooper's new operation for varicocele, which might have been supplied without materially increasing the size of the volume. Some of the chapters are not sufficiently full, even for a manual; and we would have wished, in a compilation of this sort, a more extensive range than the sphere of British literature. The author makes but one direct allusion to the surgery of America, and in this, as chance would have it, he is in error: he attributes to Dr. Mott the invention of the jointed aneurismal needle, commonly called the American needle, for which, in Dr. Mott's own words, we are indebted to Drs. Parish, Hartshorne, and Hewson, of Philadelphia.* To continental surgery he is not quite so indifferent; yet in estimating some departments of it, particularly lithotrity, he evinces more of national feeling than of close and careful comparison. He does not in all cases cite his authorities for important operations. This, in a manual, is perhaps a point of no great moment; and had the author invariably given the simple statement of facts, without quoting authorities at all, his work would have been quite as useful as at present, and much less liable to objection, in referring, as it does to some, to the neglect of others.

His diagnostic signs of disease are, in general, laid down with accuracy; and in most cases his medicinal and operative treatment are judicious. We would not, however, follow him in proscribing the use of nitrate of silver in the early treatment of venereal ulcers, not having witnessed the evil consequences which he attributes to the early application of this caustic. Again, the practice which he recommends after dividing the *tendo Achillis* for club-foot, is not such as is usually adopted; on the contrary, the plan advised by Delpech is the most approved.

With these strictures and suggestions, we would warmly recommend this unpretending little volume to the favour of the public. The student of surgery will find in it a clear and correct exposition of those facts and principles with which he should be most familiar; and the practitioner, who is prevented from entering more deeply into the science of his profession, will here meet with most of the improvements in the pathology and treatment of surgical diseases up to the present day.

J. W.

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* See the Med. and Surg. Register, New-York, 1818, p. 21.

Prostitution in London, with a Comparative View of that of Paris and New York. By MICHAEL RYAN, M.D., Member of the Royal College of Physicians and Surgeons in London, &c. 12mo. pp. 447.

THE object of this work, as stated by the author, is "to prove moral depravation to be the most fertile source of crime and of personal and social misery." Books of this description have been very differently estimated by different critics. Some seem to think that they can serve no other purpose than to excite the passions, and gratify a morbid curiosity. Others, regarding them in a scientific point of view, have arrived at a very different conclusion. It seems to us that very much must depend upon the *manner* in which the undertaking is accomplished. It is a fact, paradoxical as it may seem, that many of the fountains of virtue spring from the regions of vice; that the evil and crime which exist in the world may be made to support, instead of undermining, the foundations of moral truth. It is by having the matter clearly placed before us, as a simple statement of facts from which fair conclusions may be derived, that we learn, without fear of contamination, the folly of vice, and gain new strength for the progress of virtue. Again, works of this description, when properly conducted, cannot fail, in the hands of the public authorities, to improve the condition of that most unfortunate class in society of whom they more particularly treat. It seems now to be generally admitted that prostitution is a necessary evil in large cities — while other species of vice vary very much in the degree of their prevalence at different periods, this preserves a steady position in the heart of society. Prostitution in London bears now, and has done for the last hundred years, an unvarying proportion to the population. If this be admitted, the duty of government must be to regulate and ameliorate the condition of this unfortunate class, instead of attempting to crush it. Such an attempt, while it will in no wise diminish its numbers, will only render it more degraded, and increase, instead of diminish, the evils it brings with it. It was with such views of the subject that one of the purest and most philanthropic men of the age devoted his time, and finally his life, in the cause of relieving human misery. We well remember M. Parent-Duchatelet, his pale benevolent countenance marked with the traces of incessant thought, as we frequently met him in the hospital of La Pitié. We remember, too, the full burst of grief from his friend and associate M. Louis, when he announced to us his death at the morning clinic. The work of M. Parent-Duchatelet on Prostitution in Paris, is indeed a *chef d'œuvre;* one of the brighest examples of the application of the numerical method to the illustration of science. Eight years of incessant labour, which only terminated with his death, in the *bureaux* of the police, in prisons, in penitentiaries, in every place where the sources of information existed, has brought to light facts, and established conclusions, which cannot fail to enlighten governments and improve society. We consider the work of Dr. Ryan far inferior to that of Duchatelet as a scientific effort, but still we differ entirely from those who contend that its tendency is evil. Like every work of this kind, it is not fitted for all to read; but to the observer of life, to the man of science, to the philanthropist, it cannot fail to prove both interesting and useful.

J. A. S.

A Popular Treatise on Medical Philosophy, or an Exposition of Quackery and Imposture in Medicine. By CALEB TICKNOR, M.D., &c. New-York, 1838. 12mo. pp. 273.

An Exposition of Quackery and Imposture in Medicine; being a Popular Treatise on Medical Philosophy. By the Author of "The Philosophy of Living." *With Notes.* By W. WRIGHT, Surgeon-Anatomist, &c. London, 1839. 12mo. pp. 259.

WE are gratified to find that the "Exposition of Quackery," by our estimable friend and townsman, Dr. C. Ticknor, is duly appreciated on the other side of the Atlantic, and that within a few months of its first appearance here, it has been republished, with notes (we cannot say improvements,) by an English editor.

The object of the author in preparing this work for publication is a highly commendable one; and though not intended for the professional reader, yet every honest and enlightened practitioner will find in the work abundant materials for reflection. No one but a man fully imbued with the desire of being useful, and with a just perception of his professional responsibilities, would ever have undertaken the task which Dr. T. has so ably executed, in preparing this useful volume for the public; which, if once brought fully before the eyes of thinking men, would serve as a beacon light to guard them against the snares and pitfalls of empiricism. To the general reader the work must be as replete with useful information as it is with amusing anecdote; the author's style is simple and familiar, and his expositions of the structure, functions, and disorders of the human body, are brought down to the comprehension of every one. This was, of course, the more necessary, in order to show to full effect, the absurdities and impositions of a class of ignorant, heartless, and designing rogues, who have too long preyed upon the vitals of their fellow-beings.

The only portion of the work with which we have reason to find fault, is the chapter "on the Errors, Exclusiveness, and Ultraism of Medical Men." There are, unquestionably, in our profession, as in all others, men who degrade and dishonour it; and some, who with honesty of purpose, are by partial, imperfect, and one-sided views, too easily misled; yet in our intercourse with our professional brethren, which has been by no means very limited, and we are proud of the acknowledgement, — we have found the number of such individuals exceedingly small, and the evil influence exerted by them scarcely worth remarking. We see, then, no good end fulfilled in magnifying evils that, from the nature of things, are irremediable, at least at present; or in burnishing these evils before the gaze of men who are already sufficiently skeptical of the benefits of medicine, and who, if persuaded of the truth of all the charges brought against us in this chapter, would be warranted in eschewing medicine, and those who practise it, for ever.

Dr. Ticknor's name does not appear on the title-page of the English edition, and his editor thus apologizes for the omission:—"'The Philosophy of Living' has gained so much celebrity, that we have preferred using that title to designate the author of the present volume, and as a means of directing public attention to the individual to whom the merit of that highly useful production is really due." In this remark we presume the editor alludes to Mr. Mayo, who about a year after the first appearance of Dr. Ticknor's book here referred to, published a work in London on nearly the same subjects; and, whether knowingly or not, we are unable to determine, with precisely the same title. A British reviewer, in noticing these two works, remarks that it was fortunate for the American author that his book was published first; to which we might also add, it was equally fortunate that, on this occasion, the work of the English author was in the hands of a reviewer of his own nation.

J. W.

Outlines of the Institutes of Medicine, founded on the Philosophy of the Human Economy in Health and in Disease. By Joseph A. Gallup, M.D. 2 vols. 8vo. pp. 876. Boston. Otis, Broaders & Co. 1839.

We do not pretend to have read the above work, and in this respect we are probably on the same footing with most of our professional brethren, in whose way it may have fallen. A very few pages at the beginning, an occasional paragraph in the middle, and a hasty closing of the book at the end, with a willing determination never to meddle with it again, is all we have been able to accomplish. We should sincerely regret that such a work had been offered as a text-book to the young student, could we have the slightest fear that it would do him any material harm; it may occasion the waste of a few hours, but it can never impress upon his mind false principles. The leading character of the work is its *unintelligibility;* it reminds us of those Anglo-German writers of the present day, whose chief faculty seems to consist in stringing together words, often of their own coining, to the total sacrifice of every thing like common sense. The simplicity of scientific language is forgotten, the directness of actual observation and experience finds no place; all is obscure, vague — highsounding. Indeed we believe that the day is past when works of this description, even when far better executed, are wanted by the student or the practitioner. The science of medicine has already left the closet of the student and the lecture-room of the professor, and taken up its abode in hospitals and dissecting rooms; it has done with speculations and theories, to fix itself upon the phenomena of actual disease observed at the bedside, and corrected or confirmed by post-mortem examination.

J. A. S.

Boylston Prize Dissertations on Inflammations of the Periosteum, Eneuresis Irritata, Cutaneous Diseases, Cancer of the Breast; also, Remarks on Malaria. By Usher Parsons, M.D., &c. Boston, 1839. 8vo. pp. 248.

The five essays composing this work, as the title page announces, were prepared by Dr. Parsons, in reply to questions propounded at different times by the Boylston Prize Committee of Harvard University. Four out of these five have been honoured with the Boylston Prize, they therefore come before the public with judgement and approval already passed upon them. Dr. P. has indeed for several years been favourably known as an author; most of the articles comprised in the present work, having already been published separately. The merit of these articles consists not in any great amount of originality, or practical research; but what is almost as creditable, in presenting to the profession lucid and useful expositions on several points in pathology and practice, so far at least as these points had been previously determined by the best authorities.

The work being considered in the light of a second edition, and as several of the articles must already be sufficiently familiar to our readers, our strictures on the present occasion will be limited to the "Dissertation on Inflammation of the Periosteum, both chronic and acute." In this the author commences with the structure and anatomical relations of the periosteum; and then proceeds to the functions of this membrane, and especially to the share assigned it in nourishing the bones, and in repairing or replacing them after injury or disease. On this last subject the author, in the present edition of his dissertation, might have consulted with advantage Dr. Macartney's recent Treatise on Inflammation, particularly that part of it which treats of the formation of callus. He next takes up the diseases of the periosteum, confining himself for the most part to periostitis simple and syphilitic.

In treating of periosteal inflammation our author is, in general, correct and judicious; yet in some few points he evinces a greater reliance on systematic and speculative writers than on practical authorities. For example, in accordance with the views of Bichat, he states that inflammation of the periosteum "rarely, if ever, ends in suppuration." Now had he consulted the writings of his contemporary and fellow countryman, the late Dr. Nathan Smith of Yale College, (no mean authority on this subject,) he would have learnt that in necrosis, a disease which usually commences with inflammation of the periosteum, "the local affection generally terminates in suppuration, frequently as soon as the fourth or fifth day." Those who are familiar with the management of periosteal swellings, know full well that even syphilitic periostitis, (which is much less disposed to suppuration than that from local causes,) may first present the *gummy* deposition, and afterwards proceed to suppuration; and that when the matter thus forming, is not prevented, by a free and early outlet from burrowing under the periosteum, it separates this membrane from the bone beneath it, and thus by depriving the bone of its supply of blood, gives rise to necrosis, either of the whole thickness of the bone or of its superficial lamina.

After treating of syphilitic diseases of the periosteum, Dr. P. might properly enough have alluded to the carcinomatous degenerations of this tissue; the nature of the question, however, as proposed by the Boylston Prize Committee, did not necessarily require this.

J. W.

The Elements of the Practice of Medicine, designed as a Text Book for Students. By WM. REID, M.D. Lecturer on the Principles and Practice of Medicine. Edinburgh, 1839.

THIS is an excellent work; common sense and a just appreciation of what is actually known in medicine, appear in every page. The style is simple, clear, and unpretending, the matter well arranged and practical. We confess that we were disappointed in the expected result of an examination of its pages, for past experience has too often taught us that professed works on the practice of medicine are among the most trashy of medical productions — one good work of the kind carefully read is all that the student requires as a chart, when commencing his difficult survey of the great domain of medical science.

J. A. S.

Valedictory Address to the Students in Medicine of the College of Physicians and Surgeons of the University of the State of New-York, delivered Feb. 28, 1839. By JOHN B. BECK, M.D. Professor of Materia Medica and Medical Jurisprudence.

THE above address, published at the request of the medical class, confirms the opinion, we believe, universally entertained by the profession, that the author justly ranks in the first class of our medical writers. The spirit of a well disciplined mind pervades every part of the address. One point in particular is very justly set forth, the importance of a thorough education preliminary to the study of medicine. The medical writings of the present century, however much they may surpass those of the preceding in the evidences of an improved mode of studying disease, are yet far inferior to those that preceded them in classical elegance, the accomplishment of a liberal education.

The following are some of Dr. Beck's remarks on this subject.

"The first idea that I would present to you, is the importance of a well disciplined mind. When I speak of a well disciplined mind, I do not mean mere natural ability; but I allude to that intellectual cultivation, which is the result of study and training upon a mind capable of improvement; in other words, it is the cultivation of mind, which flows from a thorough education in the various preliminary branches of human study. Of the necessity and importance of such mental discipline, there can be little question. The mind of man is naturally feeble and imperfect. Susceptible of boundless improvement, if left to itself it makes little or no advance in knowledge. Uneducated, untutored man, is little superior to the beast of the forest. Daily sustenance is the object of his toil, and the gratification of passion, the summit of his enjoyment. In the rudest states of existence, education is unknown, and there, we find the human mind in its lowest state of degradation. If we leave these, and ascend through all the intermediate grades of society, we shall find, that just in proportion as the means of education are afforded, is the human mind elevated, expanded, and refined; and just in proportion as these are withheld, is it grovelling and debased. Without any extended process of reasoning, it is evident that the mind requires to be educated. Like the body, it must pass through a long course of discipline, before its faculties are matured, and before it can become a fit agent for the accomplishment of the great ends for which it was destined. If this be so as a general fact, how much more strikingly does its truth appear, when we come to view it in its applications to the various pursuits of life, and especially those of a professional character. The undisciplined mind, however vigorous its native powers may be, is inadequate to the successful cultivation of knowledge as embodied in these pursuits. The whole history of human experience goes to show that no original genius, however great, can ever supply the deficiency occasioned by a want of discipline and study. In no profession, perhaps, is all this more strikingly illustrated than in that of medicine. Here, the object is pre-eminently the investigation of truth, not by flights of fancy, not by visionary theories, but by patient observation, by the laborious comparison of facts, and by the nice balancing of evidence. Now it is self-evident, that no progress can be made in such a process as this, unless by a mind properly cultivated. Such being the case, the question naturally arises, how is this intellectual cultivation to be attained? I answer, only by a sound education on general subjects as preliminary to an entrance upon professional studies."

We wish our limits would permit us to make more numerous extracts. We cannot help, however, adding the following eloquent inculcation of a great principle.

"But, gentlemen, the student of our profession will find all his intellectual discipline, all his varied learning, all his labour, of no avail, unless he give them a proper direction. Unless he direct them solely and devotedly to the investigation and establishment of *truth*, they will serve but to dazzle and bewilder, and leave no lasting monument behind them.

In the early period of his existence, comparatively unacquainted as he is with the world and with man, he may think it strange, and perhaps he may doubt, that any rational and intelligent being should be governed, in the exercise of his heaven-born faculties, by any other motive than the love of truth. A few years of melancholy experience, however, will convince him that other influences exercise a predominant control over the human mind, and that a thousand agencies are continually tempting it from the path of truth. In this way it is, that the whole of man's moral and intellectual nature has become corrupted. The whole history of the human race, from our great progenitor down to the present day, furnishes a painful but faithful illustration of the correctness of this assertion. In our profession, the student will find a thousand causes operating to divert his mind from the love and pursuit of truth, and it is against these that he ought to be fortified. At one time, he may find the authority of some great name raising its oracular voice to crush inquiry; at another, he may find the intolerance of sect or party attempting to stifle honest and manly thought; at another, he may find the love of distinction tempting to the promulgation of some brilliant theory, which, however false and dangerous, may yet gain for its author the distinction of a temporary notoriety. It is thus that truth has been obscured, and error rendered perennial in our profession. Now, against all these causes, the youthful votary of medicine should be especially on his guard. With a modesty, which is the grace of every age, but the especial ornament of youth, he ought to treat with all becoming respect the labours and researches of those who have gone before him, as well as those of his cotemporaries. But, while he reads and investigates them, he should not blindly receive all they say. His reason and his growing experience should continually sit in judgement. In short, he should always *think for himself*, and let *truth*, — simple, unsophisticated truth, apart from authority, and sect, and every thing else, — be his polar star."

J. A. S.

Lectures on the Theory and Practice of Medicine, delivered in University College, London. By John Eliotson, M.D. F. R. S. &c., London, 1839. 8vo. pp. 744.

All will remember the great interest excited by the publication of Dr. Eliotson's Lectures, a few years since, in one of the London Medical Journals. These lectures are now collected into a volume, and offered to the profession, with the expressed expectation that the professor will never resume the office of public lecturer.

The adoption of Animal Magnetism by Dr. Eliotson, his public exhibitions of it in the wards of his hospital and elsewhere, his complete defeat by Mr. Wakely, and his final resignation of his place as professor, now form the most interesting medical topics in the London circle. As to his merits as a public lecturer, perhaps the best test of his claims to excellence, was his popularity; but for ourselves, (we visited him but once,) we must confess, that we were much changed in our preconceived ideas of his merits when we came to see and hear him. His visit to his patients was very cursory; his instructions at the bed-side were almost nothing; his clinical lecture common-place, and delivered without animation or eloquence. The principal feature we noticed in the conduct of Dr. Eliotson was a desire to please the students about him by personal attentions. His written lectures, are, however, full of facts; are enriched by excellent descriptions of disease; abounding in pathological knowledge, and correct principles of treatment.

J. A. S.

A Treatise on the Diseases produced by Masturbation, Self-Pollution, and other Excesses. By L. Deslandes, M.D., Member of the Royal Academy of Medicine, Paris, &c. Translated from the French, with many additions. Boston: Otis, Broaders & Co. 1838. 12mo. pp. 252.

This work abounds in important facts, but they are not well arranged.

J. A. S.

An Introductory Lecture to the Course of Instruction in the Medical Institution of Yale College, Conn. By Jonathan Knight, M.D., Professor of the Principles and Practice of Surgery. 1838.

Dr. Knight is well known as one of our most distinguished medical lecturers. The lecture before us is occupied principally with a commemoration of the lives and services of the former medical professors in the institution with which he is connected. The following sketch of one formerly well known and highly respected in New-England, will, we think, give the reader a favourable impression of Dr. Knight's talent as a writer. "Dr. Nathan Smith was no ordinary man. Until past the period when most men are fixed in their occupation for life, he was, as he himself expressed it, a labourer with his own hands, in a comparatively obscure village, with a limited education, and still more limited means of extending it. After determining to become a physician, he devoted all his exertions, and all the property he could acquire, to the attainment of a medical education, such as was then almost unknown in New-England.

The same enterprise and zeal that was manifested in obtaining his profession, followed him in the practice of it; and he laboured most assiduously during his whole life, not only to perform acceptably and beneficially the duties of a physician, but to diffuse among medical men, by his private intercourse with them, and by his public instructions, correct notions of their profession. In this he was eminently successful. It is not too great praise to say, that he accomplished as much for the improvement of physic and surgery in New-England as any other man. The faculties of his mind, by which he reached so high an eminence, were a discriminating inquisitiveness, watching with a keen eye every subject presented to him; a memory highly retentive, by which every thing of importance that he observed was made part of his mind: the power of reducing all his acquisitions, whether from reading or observation, to some useful practical purposes, and an undaunted moral courage prompting him to do all that he believed the good of others required, regardless of its effects upon himself. He was also assiduous, kind, and delicate in his attention to his patients, alike to all whether rich or poor, charitable to the destitute, bestowing upon them both his services and his property; cheerful and entertaining in his conversation with all, and of an unimpeachable moral character. With such qualities, both of the intellect and of the heart, it is not to be wondered at, that he should be regarded with respect and admiration, and that his death, at the age of sixty-seven years, when in the full maturity of his usefulness, should be felt to be a public calamity."

J. A. S.

The Annual Address to the Candidates for Degrees and Licenses in the Medical Institution of Yale College, Feb. 1839. By Thomas Miner, M.D.

The characteristic of this address is plain common sense.

J. A. S.

SCIENTIFIC INTELLIGENCE.

Proceedings of the New-York Medical and Surgical Society. Anniversary Meeting, May 11, 1839. Present, 18 members. The minutes of the previous meeting having been read and approved of, the Society entered upon its ordinary business.

Dr. Beales related several cases illustrative of the effects of strychnine in paralytic cases. A lady in a state of pregnancy, who had suffered various attacks of spasmodic pain, was suddenly seized with paralysis of the right side of her face. She was bled, leeched, and purged, and then put upon the use of yr. strychnine, in doses of gtt. xx ter in die, gradually increased to gtt. xxx ter in die. After taking the medicine a few days, manifest amendment was noticed, and the same treatment was directed to be continued.

A gentleman became paralytic on the left side; after taking the medicine, as in the former case, for seventeen days, spasmodic twitchings came on, and he is now recovering the use of the palsied side.

Dr. Edward Dixon read the following account of a recent *post-mortem examination*. The case was that of a child who was born alive, but died as soon as the head appeared, owing to unavoidable delay occasioned by the passage of a large tumour seated in the perinaeum.

A very accurate notion of the appearance of the child may be formed by supposing the whole perinaeum and skin over the sacrum to have assumed a bulging appearance, similar to the abdomen when much distended, and about the size of the same in a child of the full period unusually large. The child was a female; the vulva and anus were protruded far in advance of the natural position by the contents of the tumour, and appeared on its anterior face, being evidently connected with their appropriate passages, as ascertained by examination with the finger.

The examination was made in the presence of Drs. Ellis, Nichols, and Throckmorton; Dr. Griscom had previously seen the case.

The first incision exposed the fibres of the levator ani muscle, and other muscles of the perineum; the next, the peritoneum. The first and larger division was now exposed; it contained several transparent sacs of various dimensions, from the size of a filbert to that of a pigeon's egg. Some of them were double, and contained a viscous and semi-transparent fluid. We considered them as hydatids — the rest of the anterior division of the tumour contained a bloody serum. The tumour itself was formed of various divisions of the peritoneum. Its other contents were sarcomatous and ossified deposits in an incipient state, a perfectly formed glandular body like an adult thyroid gland of medium size, isolated from every other part, and enclosed within a capsule of the peritoneum; next we found a group of irregular spiculæ of bone, contained within a similar fold of the peritoneum. The rest of the tumour contained gelatinous matter.

Dr. D. also related a case of *nocturnal emissions*, cured by the local application of *Argent. Nit.* to the lower portion of the urethra, after the manner of Lallemand.

Dr. Casey stated that he had recently seen a case in which the *heart* was seated on the right side, pulsating between the 2d and 3d ribs; the other viscera seemed to be in their natural position.

Dr. McVickar lately saw a case of *varicose veins*, of unusual size, in a pregnant woman.

Dr. Cumming mentioned a case of *Erysipelas Phlegmonodes*, in a child 11 months old, following vaccination — the application of strong mercurial ointment arrested its progress.

Dr. Vandervoort read the history of the following case of "*Cancer of the Uterus.*"

Mrs. T. born in Ireland, aged 29 years, married, is the mother of 3 children now living — has had 2 miscarriages, the last one being previous to the birth of her youngest child, who is now 2 years old. She arrived in this country about 7 years since, and always has enjoyed excellent health: subsequent to her arrival, her menses have been more than usually abundant, and she has occasionally had the *whites*, but not very copiously. Previous to the time from which she dates the commencement of her present malady her health was very good; she was quite fleshy and led an active life. About 7 or 8 months since, dating from Dec. 7th, 1838, when I first saw her, she had a pretty copious *leu-*

corrhœa, which seemed to alternate with a bloody discharge about her catamenial periods: at this time her back and loins were very painful and weak. About two months since she lost considerable blood *per vaginam*, and has had constantly since, more or less of a bloody discharge, and sometimes a watery and mucous discharge, with much fetor. She has also felt lancinating pains shooting across the lower part of the abdomen, passing through the pelvis, and then taking the direction of the sartorius muscle. Emaciation has been progressing for several months — her appetite is impaired — she has no nausea.

Her countenance now presents a well marked sallow aspect; she has no fever, nor any special constitutional symptoms. On pressing with the fingers upon the hypogastric region, the uterus was felt considerably enlarged and fixed; the pressure caused some pain. On examining *per vaginam*, the fundus of the uterus was felt greatly augmented in volume, about the size of an ordinary orange — its neck was obliterated — the lower lip was rather indurated; vegetations were felt about the mouth of the uterus and superior part of the vagina. When the speculum was introduced these vegetations were distinctly visible, and presented a ragged, ulcerated aspect: a bloody, or chocolate coloured fluid, of a very offensive odour, entered the speculum whilst in the vagina, although much care was exercised not to dilate this part, owing to the readiness with which hemorrhage was produced. It is unnecessary to enter into all the details of this case — it will be sufficient to state that she continued to pass more or less blood every day for several weeks, and subsequently, a profuse quantity of limpid fluid, that at times she complained of much difficulty and pain in voiding her urine; that violent pain in the back and pubic region constantly tormented her — that her stomach at times was very irritable, and refused to retain the little food which she took; that a troublesome diarrhœa attacked her a few weeks prior to the termination of her disease; and that the constant drain from her system enfeebled her so much, that she expired on the 8th of May, 5 months from the time when I was called to attend her, and about 13 months from the commencement of the malady. A *post-mortem* examination of the case was made by Dr. Swett, for a full account of which I must refer to his excellent paper on "Cancer of the Uterus."

Dr. Swett mentioned several cases in which the use of *hallibut's* liver had produced considerable constitutional disturbance. The symptoms in some degree resembled those formerly mentioned by Dr. Post as having occurred in his own family.

Dr. Watson reported a case of tetanus, which had arisen from the plugging of a tooth.

Dr. Clark read the first part of his paper on the "Climate of Madeira," embracing a full account of the various changes to which it is liable, in reference to heat, moisture, variableness, &c. Also, as compared with the climate of other countries.

Dr. O. White was appointed to read a paper at the next meeting.

The *Treasurer* presented his Report, which was read and accepted.

The Society now proceeded to elect its Officers and Standing Committees for the ensuing year; the result of the election is as follows:

Dr. H. D. Bulkley, *President;* Dr. John Watson, *Vice-President;* Dr. J. L. Vandervoort, *Secretary;* Dr. E. L. Beadle, *Treasurer;* Dr. J. A. Swett, *Curator.*

"*Post-mortem Committee,*" Drs. Swett, Watson, Post, Buck, Clark.

Committee of Publication, Drs. Swett and Watson.

Dr. Ticknor nominated for membership Dr. James Stewart, seconded by Drs. Dixon and McVickar.

Dr. Post offered the following resolution: *Resolved,* That the 16th article of the Constitution be repealed. This being an amendment to the Constitution, lies on the table for two meetings.

Dr. Swett moved that the Society assemble on Monday evening, the 13th instant, at the Carlton House, to celebrate its Anniversary. Carried.

Adjourned.

In accordance with the resolution of Dr. Swett, and as had been previously agreed upon, the Society met at the appointed place, and celebrated its Anniversary around the festive board. In the course of the evening an *Address,* prepared by the Secretary, was delivered, which embraced an historical account of the rise and progress of the Society, an abstract of which we present to the readers of this Journal.

"During the year 1833, the Physicians attached to the New-York Dispensary, aware of the benefits to be derived from a free interchange of sentiments on medical subjects, formed an association among themselves, and resolved to meet at the Dispensary for the express purpose of reporting interesting cases, and discussing such topics connected with medical science as might arise. The deliberations on these occasions were of an interesting character, and some valuable papers were at various times laid before them. Monthly Reports of cases, with appropriate observations, were read, some of which were published in a Journal which was then in existence in this city. The tendency of these reports was such as to direct the attention of the members to the importance of keeping a record of such cases as came under their care.

This, though accompanied by much difficulty, arising from the irregularity of attendance on the part of the patients, and the great expenditure of time and labour necessary to the proper fulfilment of such duty, might still be pretty generally effected, and thus be the means of contributing something to the interest of the meetings.

As their presiding officer, they selected one of the Consulting Physicians of the Dispensary, to impart an air of dignity to their proceedings, and to profit by his sage advice and more mature experience. The respect due their estimable President, and the novelty of the project, together with the zeal and enthusiasm of the originators of this laudable scheme, caused them for a while to meet with regularity and punctuality.

But the strenuous efforts of the few, whose time and talents had been sedulously devoted to the support of this infant Society, were but indifferently seconded by the rest of their associates. And thus they were unable to carry out, as fully as they desired, their contemplated plan. After dragging out a feeble existence of rather more than twelve months, the meetings of the Society were necessarily discontinued.

Though disappointed in this their first attempt at forming a Society whose transactions might be of value to them, they were not disheartened; their generous emulation and pristine vigour still remained, though the edifice which they had commenced to rear had fallen into ruins. Experience had taught them that success in any similar undertaking, would more likely be obtained by increasing the number of cooperators, and thus diminishing the amount of labour required of each one. Accordingly, on the 14th of February, 1835, the "Members of the Medical Association of the N. Y. Dispensary," judging that a society somewhat similar to their own, if founded on a more extensive basis, might be worthy of the attention of their medical friends, Resolved, to so modify their constitution and by-laws, as to admit other physicians than those connected with the Dispensary. And after dissolving their then existing association, Dr. Watson was called to the Chair, and Dr. Swett appointed Secretary. At this meeting it was proposed that the physicians present should select from among their medical friends, a sufficient number of such as felt an interest in medical discussions and investigations, for the purpose of forming a Society of about twenty or thirty members.

A committee of three was appointed to draw up a constitution and by-laws to be presented at the next meeting.

Thus reorganized, an adjourned meeting of the physicians was held at the Dispensary, February 21st, at which eleven gentlemen were present.

At this meeting, the constitution and by-laws, which are substantially the same as those since adopted by this Society, were presented, having been drawn up by Drs. Swett, Griscom, and Milnor. At this meeting, also, the Society proceeded to ballot for its officers. Dr. Swett was chosen President; Dr. Wallace, Vice-President; Dr. Watson, Secretary; Dr. Bulkley, Treasurer. And on the 28th of February, it held its first regular meeting at the N. Y. Dispensary. The late Dr. Starr and Dr. S. Wood were the first reporters of cases, and Dr. Watson the first quarterly essayist.

This new enterprise promised to be far more successful than the former one, and for awhile the just anticipations of its friends were fully realized. Animated and interesting discussions, the relation of important cases, and analyses of recent journals, were regularly brought before the Society. The duties required of each member were performed with punctuality, and gave presage of the most favourable results. From time to time additional members were admitted, some of whom took a warm interest in the proceedings of the Society, whilst others regarded its transactions with the utmost indifference; they preferred to profit by the researches of others, rather than engage themselves in the laborious work. Additional efforts became necessary to secure, if possible, the attendance of those who, stimulated by an ardent desire to advance the cause of medical science, would be zealous in their discharge of the required duties, and in promoting all the objects for which the Society was organized. These efforts were made, but, for the most part, in vain. The dormant energies of the junior members of the profession were appealed to, to no purpose; they could not be roused from their listlessness and apathy, notwithstanding their interests are so deeply interwoven with all that appertains to an accurate investigation of disease, whether in regard to its symptomatology, diagnosis, or therapeutics. It did indeed seem strange that here, where merit receives its reward only after the most severe trials, and the most assiduous and persevering application, that a Society, whose features presented such fair prospects for the attainment of the most desirable ends, should have been so signally slighted.

The fairest opportunities for improvement are not seldom thus disregarded, unless, perchance, the attraction of golden charms is superadded to other less powerful inducements. Our Society rested its inducements and allurements solely on its capability to promote the objects for which it was created; and these objects were to be attained only by the zealous and unceasing co-operation of its members. Month after month the Society continued to assemble, notwithstanding it did so under the most discouraging circumstances. At length its estimable President left for Europe, and was followed not long after by another member, whom ill health prompted to seek the doubtful benefit of a foreign clime. This cause, together with the warm weather which occasioned the temporary absence from the city of several of the members, induced the Society to discontinue its meetings during the months of July, August, and a part of September. On re-assembling in this latter month, it was found that so few were present that it was deemed inexpedient to transact any of the ordinary business of the Society. One meeting, however, was held in September, at which ten members were present, followed by two in October, attended respectively by eight and ten members.

The minutes of these meetings contain the reports of some interesting cases, and give much cause of regret that the Society was unable to remain longer in existence. A different disposal having been made of the room in which it was wont to meet, and suitable accommodations, elsewhere, not being at immediate command, together with the causes before mentioned, had the effect of breaking up the Society which had survived during a period of eight months.

A long interval now elapsed, during which the same Spartan band frequently evinced an earnest desire to revive their former association. They fondly cherished its remembrance, and looked back upon it with feelings of much satisfaction for the pleasure which it had afforded them, and the information which they had derived at its meetings. Their's was not the enthusiasm which is cooled by one reverse of fortune, not the spirit which is crushed by one untoward event.

Hitherto all efforts to establish a Society on a lasting foundation had proved ineffectual, the difficulties to be overcome were far from being imaginary, and were such as could not easily be removed. It was deemed advisable, however, to make another attempt and to secure, if possible, the attendance of a sufficient number of gentlemen who were zealously devoted to the promotion of medical science.

A preliminary meeting for this express purpose was accordingly held at the New-York Hospital, October 15, 1836, one year after the demise of the former Society which was established with the same design. On this occasion, the following gentlemen were present: — Drs. Bulkley, Adams, Watson, Beales, Griscom, S. P. White, McVickar, Beadle, Shook, Mitchell, Eigenbrodt, Vandervoort.

Dr. Bulkley was called to the Chair, and briefly stated the objects of the meeting, and Dr. Vandervoort as Acting Secretary, read the last minutes of the former Society, and also the constitution and by-laws of that Society.

On motion of Dr. Griscom, it was Resolved: That the gentlemen now present, organize themselves as a Society under the name of the "New-York Medical and Surgical Society," and adopt the constitution and by-laws of the late Society of the same name, subject to such modifications as as may deemed proper, upon a revision of each article.

On motion of Dr. Watson, the Society proceeded to the selection of officers, which resulted in the choice of the following gentlemen: —

Dr. J. G. Adams, *President;* Dr. H. D. Bulkley, *Vice President;* Dr. J. L. Vandervoort, *Secretary;* Dr. J. C. Beales, *Treasurer.*

The gentlemen present affixed their signatures to the minutes, in lieu of the constitution which had to undergo revision, as evidence of their membership, and the Society then adjourned to the following week.

At the subsequent meeting, various necessary alterations and amendments were made to the constitution and by-laws, and such other measures adopted as seemed requisite to establish the Society on a firm basis. From that time until the present, a period of two years and a half, the meetings of the Society have been held with the utmost regularity, and a lively interest manifested in its various proceedings.

This brief sketch of the "New-York Medical and Surgical Society," will suffice to show on what a slight foundation it was originally reared; step by step, it has gradually risen from a state of infantile weakness to a vigorous manhood, and future fame and proud distinction await its onward career.

At each meeting, verbal statements of cases are made and fairly commented on, and a member, appointed by the President, is required to read a paper on some medical subject, or a report of interesting cases. Most of these papers have been monographs, and were drawn up with much care. Once in three months an essay is read; the choice of the subject being left to the person who is selected by the Society, — the appointment is deemed honorary.

In order to secure faithful accounts of *post-mortem* examinations, the Society recently passed a resolution requiring all such statements to be made in writing, and none else are received. A *post mortem* committee, consisting of five members, is annually elected, whose duty it is to attend to all such examinations upon the request of any member, and to make a written report of the same to the Society. The importance of accuracy in all the details of *post-mortem* investigations cannot be too highly estimated, and the course adopted by the Society seems well calculated to favour so desirable an object.

Regular Meeting, May 25. Present fourteen members. The minutes of the previous meeting were read and accepted.

Dr. Watson related the following *post-mortem* examination of a man who had for years suffered from disease of the urinary organs, and whose death was preceded by an acute attack of mania.

May 21st, 1839: I examined the body of Mr. A. D., formerly a merchant of this city, aged 60 years, and who had been dead about thirty hours — frame well developed, but not very stout; considerable adipose matter under the integuments.

On opening the head, which was supposed to have been the principal seat of disease, the only appreciable lesions were, first, a congested state of the arachnoid, in which there existed some serous effusion, amounting perhaps to an ounce and a half: secondly, a firm adhesion between the opposite surfaces of this membrane for about an inch square, at the vertical portion of the brain on the right side of the longitudinal sinus: thirdly, a dotted appearance of the medullary portion of the brain when cut, caused by a congested state of the vessels running through this structure.

At the request of the physician, who had had charge of the patient, the examination was arrested here. Not having had his attention directed to the viscera of the chest or abdomen, during the life of his patient, he had no expectation of finding any important lesions within these cavities, but at the instance of the friends of the deceased who were anxious to have the body more thoroughly examined, I renewed the inspection some hours afterwards.

On opening the chest, the lungs were found perfectly healthy; the pericardium did not contain more serum than was just sufficient to moisten the finger. The heart was empty, and of its natural size, but surrounded with a considerable quantity of fatty matter; its parietes were rather softer than usual, and no morbid changes were observable on its inner surface. But immediately beyond the heart, commencing with, and including the valves of the aorta and extending through the whole length of the aorta and even to the sub-divisions of the iliac arteries, the inner lining of these vessels was of a crimson colour. This colour was deepest at the arch, where there existed a large rough and irregular deposit of bony matter, — another similar deposit, not quite ossified, was found in the abdominal portion of the aorta. The inner lining of this vessel, besides presenting this crimson colour, appeared also to be softened, and in one or two spots it was abraded and easily elevated from the coats beneath it. The elastic coat was of its natural colour and appearance, except on the posterior portion of the vessels, where its colour was altered by the imbibition of blood.

On opening the abdomen, the liver was found rather smaller than usual, but of a healthy structure; the spleen, stomach, and intestinal canal, were also healthy. The left kidney had a mottled and ecchymosed appearance externally. The right kidney, besides presenting the same appearance, had its pelvic cavity much dilated, and lined with an irregular fatty deposit; the upper portion of the right ureter, going from the kidney, was dilated into a conical pouch about three inches in circumference above, and gradually tapering down to its natural dimensions towards the middle. The bladder was distended, containing about a quart of urine; its parietes were at least twice their natural thickness, and on the outer surface it appeared pouched. One of these pouches at the fundus was of a hemispherical form, and about an inch in diameter. Three calculi of a yellow colour were found within the bladder, two of them lying loose, the other was sacculated and firmly embraced within a pouch at the posterior part of the bladder. The two loose calculi were flattened ovoids in form, the largest about two inches long by an inch in width and a quarter of an inch in thickness; the other as large as a kidney-bean. The sacculated stone was also small, and lay so deeply in its proper cavity, as not to project into the cavity of the bladder. The inner surface of the bladder was in all parts reticulated as if by the unravelling of its muscular fibres; and this, with the distension of the cellular tissue beyond, gave rise to the small sacks and pouches already noticed.

A round tumour, pedunculated, and as large as an English cherry, was found projecting into the bladder from the upper and posterior portion of the prostate gland, and so situated as to fall against the commencement of the urethra, and thus prevent the flow of urine; its texture was, apparently, the same as that of the prostate gland itself.

This gentleman had for many years been troubled with difficulty of micurition, but since 1832 this had been much more distressed than formerly. Within the last few years he has been obliged to rise from bed several times every night, and was often straining for more than half an hour at a time in attempting to unload his bladder. Within this period, too, he had, occasionally, had lithic acid deposition from his urine, but he had never voided any gravel; and no physician, prior to his death, had ever intimated the existence of stone in the bladder. He had suffered almost constantly since 1832, from a dull but severe pain in the back, leading his physicians to suppose that his urinary difficulty was caused by disease in the kidneys. He had long been subject to sudden starting in his sleep, and to violent palpitation of his heart.

A month or two before his death, his disposition appeared to be somewhat altered, and, as was supposed, in consequence of mercantile embarrassments; about eleven days before his death he became maniacal. During his last illness he frequently exclaimed that "his heart-strings would burst," and complained of much distress in the region of the heart; but these expressions were taken as metaphorical, and during his illness all his symptoms were referred to disease within the skull. He was not supposed to have any symptoms of true febrile excitement. The mania lasted until a few hours before death, when he became exhausted and sunk into a typhoid state, in which condition he expired.

Query. In this case what connection existed, as cause and effect, between the tumour at the neck of the bladder, the calculi, the diseased condition of the blood-vessels, and the maniacal symptoms, which in the last days of life appear to have masked all the others?

Dr. Dixon exhibited an adipose tumour which he had recently removed, and which, from various purple spots on its surface, he had supposed to be malignant.

Dr. Clark related a case of amenorrhœa, in which the patient was attacked with great œdema of the right arm when the menses ceased to flow; punctures were made into the swelling, and serum oozed out. In the course of six or seven months, the catamenia were restored for awhile, when the swelling disappeared; the menses again becoming suppressed, the œdema returned.

Dr. McVickar mentioned several cases of bronchitis in which the mucous membrane seemed to be in a very relaxed condition; there was oppression of the chest, cough and free expectoration. He referred to several cases in which he had used antimony, but was obliged to discontinue it, and prescribe generous diet and tonics, and with much benefit.

Dr. Griscom had seen similar cases; in one there was a sudden transfer of the disease to the stomach, followed by a copious discharge of bilious matter.

Dr. Post stated that he had recently seen a case of luxation of the humerus in a man 77 years of age.

Dr. Bulkley related the following effects of the external application of stramonium.

"I was called, May 10th, to visit a lady about 26 years of age, of dark complexion, and nervous temperament, who was nursing her first child, then 4 weeks old: the outer half of the left breast was very much indurated, very painful, and quite sore to the touch, and the integuments slightly red; the soreness and pain extended also into the axilla, where there was some swelling of one or two glands; there was also considerable constitutional irritation; 12 leeches had been applied to the part two days before, which had been followed by the use of stimulating (quack) ointments, instead of the emollient poultices ordered, and which had aggravated all the local symptoms very much; she was ordered to apply a poultice of bread and milk, with leaves of stramonium, and to take small doses of salts through the next day.

This poultice was applied in the evening, and afforded great relief, so that she rested very well through the night; very early the next morning (11th) she experienced, on awaking, considerable heat of skin, and a sensation of fulness and of stricture about the posterior fauces, and at daylight, found numerous spots of urticaria on her hands, and soon after, on her face, neck, and limbs. When seen at 9 A.M., the eruption was very thick on these parts, presenting the well marked characters of urticaria; the elevations on the face, and particularly on the neck and upper part of the chest, were of a decided *rose* tint; the face was somewhat swollen, the itching was quite severe, and returned in paroxysms. The eruption in the course of the day spread over the body and limbs; bowels free, tongue clean, appearance of throat natural; no indications of affection of brain; urine high coloured; ordered to discontinue the use of stramonium, and to take a slight laxative.

Next day, (12th) no stool; the irritation of the eruption diminished through the day previous, but there was great itching at intervals. The relief afforded by the stramonium the night before, induced her to apply it again last evening, in consequence of some return of the pain. In about 15 minutes from the time of its application, a sensation of fulness and oppression was again felt about the posterior fauces, and also the upper part of the chest, which was soon followed by a fresh eruption of urticaria, with great increase of the itching; eruption now very abundant over the whole face, neck, chest, and limbs, and also on body, (which was not examined) some of the patches are very large, especially about the wrists, confluent in some places, in wheals or other parts, some of quite a distinct *rose* colour, others white; paroxysms of itching quite severe.

Small doses of salts, with light diet, are ordered, and the eruption gradually declined, and was all gone on the fourth day; she never had any eruption of the kind before.

Dr. O. White read a report of cases of disordered menstruation in which iodine was given with much benefit.

Adjourned.

Extracts from the Minutes of the Kappa Lambda Society. Regular Meeting, July 25, 1838. *Dr. A. C. Post* gave an account of a *post-mortem* examination of a lady, aged 50 years, who had suffered from hemiplegic attacks, and other symptoms of affection of the brain.

The *brain* was softer than natural, especially the corpus callosum and septum lucidum. A cavity containing purulent matter, with a lining of coagulable lymph, was found in the left corpus striatum; the hemiplegia was on the right. The arteries of the brain were enlarged and thickened.

The *heart* was enlarged and hypertrophied; the valves thickened and indurated. In the cavity of the left pleura, was found a pint of fluid, of a dark greenish or yellowish colour.

In the posterior part of the *stomach*, near the cardiac orifice, three perforations were found, which communicated with the diaphragm, and through it, the contents of the stomach had been discharged into the left pleura. A mass of fat was found between the pleura and pericardium.

Dr. Buel mentioned a case of paralysis of the muscles of the throat and pharynx following syphilis.

Dr. Rodgers mentioned a similar case of paralysis in a female, attended with great torpor of the bowels, very little fœcal matter was discharged during two or three years.

Dr. R. also spoke of a case of hydrocele, in which he had punctured and drawn off nearly three pounds of fluid.

Dr. Isaac Wood mentioned a case of ovarian dropsy, which he had recently tapped the sixth time, and drawn off eight gallons of fluid.

Regular Meeting, August 29, 1838. *Dr. Atkins* related a case of ovarian tumour of large size, much relieved by the treatment proposed by Dr. Hamilton of Edinburgh. It was a solid indurated tumour, causing the abdomen to present the appearance of a woman in the seventh month of pregnancy. She was put upon the use of a pint of ext. con. mac. and pulv. ant. āā gr. ii. four times a day, with poultices of the conium maculatum to the abdomen. In a few weeks the tumour was reduced to the size of a child's head a year old; in which state it remains, now nearly two years, causing very little inconvenience.

Dr. A. also stated the case of a lady who recovered after a pulmonary abscess under the following circumstances. The patient was of a consumptive family, of dull phlegmatic habit of body, tall, and thin. In the fall of 1837, she had an attack of pleuro-pneumonia, from which she was convalescent in about six weeks. She had *no cough*, till resolution took place. She remained well through the winter. In March, she presented the following appearance; pulse 120; great debility; dull sound under the left clavicle only; respiration extremely feeble in the same part; *no cough.*

Diagnosis: Tubercles; and, considering the family predisposition and general appearance, an unfavourable result was predicted. She was put, at once, upon the use of iodine externally and internally, as recommended by Dr. Morton, in his work on consumption; the free use of the best Madeira wine, and a diet of cream, milk, &c. In ten days after, an abscess broke in the night, she began to cough, raised large quantities of yellow pus, and numulated sputæ, lost her voice, and presented, altogether, the most unfavourable appearance. The remedies were pushed vigorously; and in two weeks, the expectoration and cough had nearly ceased. She continued the same remedies for six or eight weeks longer. The pulse became less frequent, the dull portion of the lung recovered its natural sound, and respiration was freely established in every part of the lung. Her strength was restored, and she remains perfectly well at the present time; fourteen months after the treatment was discontinued.

Dr. A. remarked that he was not aware of any form of pulmonary disease, that would accord with the above description, but a local deposition of tubercular matter, happily removed by suppuration. The patient's constitution was admirably suited to the use of iodine, she being of a dull, pasty, irritable habit, not having presented at any time an appreciable increase of heat of skin in any part of her illness.

Dr Hoffman reported a case of Cæsarian Section, terminating favourably to the mother.

Dr. H. was called at 8 P.M. August, 12, 1838, by Dr. Cockroft, jr. to visit with him a Mrs. Day, at No. 51 Allen street, then in labour with her first child. He found her a dwarf — 4 feet high — 42 years of age — her spine and body, seemed of ordinary length, but lying on her side in bed, she appeared to have no legs, the length of her lower extremities not being greater than that of an ordinary thigh, and her upper extremities equally disproportioned. On examination *per vaginam*, the anterior surface, or what should be the hollow, of the sacrum, was felt bulging forward with a regular, smooth, convex prominence, that had been mistaken for the head of the fœtus at the full time. To prove that the sacrum projected forward, the fore-finger was introduced up the rectum, and found to pass anteriorly to the projection — at the base or promontory, the sacrum approached so near the symphysis pubis, as to admit with difficulty the passage of two fingers between them, reducing that space to about an inch and a quarter. Laterally, there was more space, but not in the antero-posterior diameter. The head of the child could be reached by the finger through this narrow aperture, lying above the brim of the pelvis, and its outlines could be distinctly felt through the parietes of the abdomen, pressing on and projecting forward over the os pubis. A catheter was introduced, and the bladder found nearly empty. Drs. Belcher, Cockroft, and the reporter, concluded that there was no resource but the section of the womb. Dr. A. L. Anderson, so well known for his obstetric skill and experience, was called in, who thought that by care and very patient waiting, it would be practicable to deliver by embryotomy. Dr. Hoffman was unwilling to resort to this, from the conviction that, with a space not wider than an inch and a half at most, with the rectum behind and the bladder in front, together with the relaxed os tincæ in the way, and the head hardly within reach of the finger, it would be almost impracticable, and would endanger wounding the bladder or rectum, and lacerating the cervix uteri. He, however, went home to procure instruments, and requested his neighbour, Dr. John Watson, to accompany him to the patient, who, after an examination of the case, decided in favour of the Cæsarian section: Dr. Cockroft, (whose patient she was,) and Dr. Belcher, who had seen her in consultation, agreeing in this decision, and requesting Dr. Hoffman to perform the operation, the patient having then been in labour 24 hours. Dr. H. proceeded as follows: placing the patient on her back on a cot, with the thighs flexed on the pelvis, an incision from six to seven inches in length was made through the skin from near the os pubis to the umbilicus, in the course of the linea alba. Being much stretched by the distended uterus, the integuments receded to the extent of three or four inches as they were separated by the scalpel, and were easily divided by slight touches of the knife. On dividing the exposed peritoneum, some fluid gushed out, which it was thought might be urine from an over distended bladder, though the catheter had been introduced two hours before. To remove any apprehension of this kind, that instrument (a long flexible one) was again introduced, and very little urine was found in the bladder, showing that the fluid came from the cavity of the peritoneum. The uterus thus laid bare, was divided by one stroke of the knife, about five inches in length, the head of the child, (the occiput presenting,) was at once protruded through the incision, and with a little assistance, was delivered, followed by the shoulders, &c. It evinced signs of life by gasping and moving the arms. Dr. Belcher took it in charge. With the umbilical cord as a guide, Dr. H. then introduced his left hand through the incision into the uterus (which was not felt to contract), and on gently pressing the placenta, it was found to be detached, and was removed. There was not more hæmorrhage than usually attends a natural delivery. The small intestines which had protruded to a considerable extent, were carefully replaced, and the wound brought together by 6 or 8 sutures, not including the peritoneum. Adhesive straps, compress, and bandage were then applied. The pulse was good, and did not flag during or after the operation — 20 drops of solution of sulphate of morphine were given, and repeated during the night.

13th. Second day, 7 A. M.; 9 hours after the operation. Patient had slept, and had passed a tolerably good night; felt comfortable; had not voided urine; pulse 120; some heat of skin, no distention of abdomen; an enema of infusion of flax-seed was prescribed.

5 P. M. —19 hours after operation; had voided urine twice. The enema, which had been repeated, had not come away; abdomen more tense, and somewhat tympanitic, tender to the touch, and pain darting from one lumbar region to the other; pulse 104, and strong. She was freely bled, and 15 grains of calomel were ordered, to be followed at bed-time by castor oil; hop fomentations to be applied to the whole abdomen.

14th. Third day, Abdomen tumid and tender; no discharge from bowels had taken place; an enema containing ol. terebinth. was then given, and was followed by a free evacuation of the bowels; 18 leeches were then applied to the abdomen, and the fomentations continued.

15th. Fourth day, venesection repeated to 10 or 12 ounces, and fomentations persevered in.

17th. Sixth day, wound was dressed, leaving the sutures, union being incomplete; pulse 110; ordered castor oil.*

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* We here annex the account of the progress and the result of the case, as subsequently furnished Dr. H., for the purpose of giving a continuous view of it.

By confining her to a very small quantity of light nourishment, by the occasional use of aperients or enemata, and by fomentations assiduously applied to the abdomen, the soreness and uneasiness were gradually removed, and on the 2d of September, three weeks after the operation, the patient was sitting up in a chair, " feeling *smart*," with a good appetite and her bowels regular. The wound had closed, with the exception of a very small space at its lower part — a probe introduced into this, could be felt at the os tincæ, showing that the incision into the uterus was not entirely closed. Four weeks after the operation, the patient (who was a very estimable and industrious little woman,) set out on her journey home on Long Island, at a distance of 30 miles, with the wound completely closed, and in good health. In October following, she was heard of as continuing in good health.

The child was deformed in the lower extremities, and did not long survive its delivery.

At the *Anniversary Meeting*, held Oct. 31, 1838, the annual election of officers was held, and the following were chosen :—

Dr. R. K. Hoffman, *President.*
" F. U. Johnston, *Vice President.*
" A. C. Post, *Corresponding Secretary.*
" H. D. Bulkley, *Recording Secretary.*
" Gurdon Buck, *Treasurer.*
" J. A. Washington, }
" Wm. P. Buel, } *Guardians.*
" Isaac Wood, }

Regular Meeting, Nov. 28, 1838. *Dr. Post* related an interesting *post-mortem* examination of a female, a widow, thirty-seven years of age, who had been suffering from chronic diarrhœa three or four months. An accurate history of her case could not be obtained ; acute symptoms supervened, and terminated her life at the end of about a week.

There was great emaciation of every part of the body except the omentum, which was loaded with fat, and was low down, and adhered to the viscera, and to the walls of the abdomen. A quart of sero-purulent fluid, with flakes of lymph, was found in the hypogastric region ; there was redness and congestion of the peritoneum of the right lumbar and inguinal regions, and a mass of lymph in the right inguinal region. The ileum was found separated from the cœcum directly at the valve, between a quarter and half an inch, the circumference of each portion of intestine presenting a round, elevated margin, as though an attempt had been made at reparation. The vermiform appendage was also found detached and lying in the pelvis, adhering to a diseased ovarium. The right ovary was converted into a sac, containing a dark melanotic fluid; both ovaries were adherent to the rectum and to the bladder. The coats of the large intestines were thickened; their whole surface was smeared with a puriform fluid, and sprinkled with numerous ulcers along their whole course; there was no fœcal matter in the abdomen.

Dr. Post also related the case of a man, seventy years of age, who died from retention of urine. A physician was called who relieved him for several days by the catheter. In one instance, a slight laceration of the mucous membrane gave rise to the discharge of a very little blood. The physician was then dismissed, and a quack called in, who pronounced it a case of *piles*, and would not introduce the catheter; at the end of a few days, the patient died. On examination of the body, the prostate gland was found enlarged, laterally, to six or eight times its normal size, and there was an appearance of longitudinal bands of muscular fibres along the floor of the prostatic portion of the urethra.

Dr. Post exhibited a specimen of an urinary bladder taken from a child four years old, which he was called to examine, and which died of retention of urine. The child died without the cause of death being known, and the bladder was found by Dr. P. much distended with urine, and much congested, measuring six and a half inches in length, and four inches in breadth.

Dr. Post also mentioned the case of a seaman brought into the N. Y. Hospital, who had been injured by a fall into the hold of a vessel. In falling, he turned a somerset, and struck on the nates, and probably afterwards struck his head. When he reached the hospital, he was cold, and almost entirely insensible, and the pupils were contracted to the size of a pin's head. Warmth had been restored by the proper means before Dr. P. saw him. He found the head much bruised, and an effusion of blood in several spots; the patient lived but a few hours. After death, he found the brain and blood mixed together, as though the brain had been bruised to a pulp and mixed with the blood. Dr. P. wished, principally, to direct attention to the state of the pupil, and to inquire, what particular state of the brain is connected with a dilated and what with a contracted pupil. He is inclined to the opinion, that a contracted state of the pupil indicates laceration of the brain.

Dr. Jos. M. Smith related the case of a seaman in the New-York Hospital, with disease of the heart, accompanied by dropsy; the cellular tissue, particularly of the lower extremities, was enormously distended, but without any ascites. The scrotum was more distended by fluid than he had ever seen it in any other case. A large quantity of fluid escaped from it on being punctured, and it afterwards sloughed very extensively. The patient laboured under great difficulty of breathing, amounting to orthopnœa, with great anxiety of countenance, &c.; pulse was generally regular, and not much disturbed. There was increased impulse of the heart, and dullness over the precordial region, and also a peculiar sawing sound connected with the second sound of the heart, so modified as to be musical; it was like sawing at a distance, and was thought to indicate valvular disease, Dr. Smith thought, of the tricuspid; but it was difficult to decide which valve was the seat of disease. On examination of the body, the heart was found very much enlarged, the size of a bullock's; the walls of the right ventricle were thickened, and its cavity somewhat dilated. The cause of the peculiar sound was in the mitral valve, which was rather thicker than natural, and but imperfectly closed, leaving an opening rather larger than a goose-quill. There were no other lesions to account for death; the liver was slightly enlarged.

Dr. J. K. Rodgers related an operation for the removal of a large tumour, the particulars of which, with the drawings, may be found in another part of the present number.

Regular Meeting, January 30, 1839.—*Dr. Washington* reported a case of painful and rather profuse menstruation relieved by arsenic, given in the doses recommended by Hunt, but with the addition of conium and ipecacuanha. The patient was twenty-two years of age, of leucophlegmatic temperament; the pains were almost as severe as those of labour; there was also pain in the side during the intervals, want of appetite, and desire for improper food, as acids, pickles, &c. She commenced taking pills, consisting of two grains of conium, and one-twentieth of a grain of arsenic, three times daily, about a fortnight before the menstrual period, and passed the period without pain; there was also improvement of the general health. She took at the same time, two lozenges daily, containing each half a grain of ipecac; diet of milk and vegetables. She took forty pills before the first period, and sixty before the second, the whole number containing five grains of arsenic. Dr. W. added, that Hunt details a case of cancer of the uterus, in which Fowler's solution was given with advantage after opiates, &c. had failed to relieve the agonizing sufferings of the patient.

Regular Meeting, Feb. 27, 1839. *Dr. J. K. Rodgers* exhibited a tumour removed by him from a young man in October last, and reported at the meeting in November; and also two drawings, exhibiting a front and back view of the patient before the operation. (The case is reported, with the drawings, in the present number of this Journal, p. 23.)

Dr. R. also reported a case of dislocation of the head of the os femoris in an adult female. Dr. R. remarked, that Dr. Warren, Jr. of Boston had told him that he had never seen a case of this kind, nor had his father, nor any surgeon whom his father had consulted on the subject in Europe. Dr. R. has seen and reduced three cases of the kind. The day before yesterday, he saw a woman at the Eye Infirmary, who had received an injury of the hip joint from a fall. The limb was one inch shorter than the other, the toe turned inward, the thigh in advance of the sound one, and flexed on the trunk, and there was flattening of the nates. On rotating the thigh, the great trochanter described the arc of a large circle; the anterior superior spinous process of the ilium, the great trochanter, and the tuberosity of the pubis, did not constitute the angles of an equilateral triangle. A fifth case which he did not see, has recently come to his knowledge, in a female, 61 years of age, at the New-York Hospital, who had dislocation of the head of the os femoris or the dorsum of the ilium. Dr. Warren, Jr. says there is not a case of the kind on record.

Dr. Rodgers remarked that he had never seen a dislocation of the hip joint reduced which had existed over twenty-nine days. Sir A. Cooper mentions one case of five years standing, reduced accidentally by the patient's being thrown from his berth in a gale of wind.

Dr. A. C. Post read the following *post-mortem* examination of the case of Lupus, accompanied by jaundice, reported at the last meeting, and exhibited the specimen showing a calculus lodged in the ductus communis.

Post-mortem examination of Hugh Gilmore, seaman, 40 years of age, who had been under treatment for Lupus in the New-York Hospital, and had been nearly cured by the application of Dupuytren's powder, when he was attacked with vomiting and tenderness at the epigastrium, accompanied with jaundice, of which he died ten days after these symptoms had supervened.

Skin and sub-cutaneous cellular tissue intensely yellow; the same discolouration of the duodenum on both surfaces. Yellow serum under arachnoid membrane, covering the hemispheres; brain not discoloured; peritoneum, ilium, pericardium, and internal surface of heart and arteries, of a yellow colour; liver very large, extending an inch below the margin of the lowest rib, and two inches below the sternum; extending also into the left hypochondrium and touching the spleen. On incising the left lobe of the liver, there flowed out several ounces of a yellow fluid, with flakes floating in it. The gall and bladder not much distended with bile; it contained about an ounce of a fluid resembling that which flowed from the left lobe of the liver. In the ductus communis choledochus, near the duodenum, there was a calculus which completely obstructed the duct; it was of a globular form, with a rough surface, and nearly half an inch in diameter. On cutting the left lobe of the liver, numerous bright yellow spots were found, apparently owing to depositions of a solid yellow matter in the substance of the liver. The pancreas was unusually firm. The mucous membrane of the stomach was injected in spots, and softened.

Dr. Post also read the following account of an interesting case and *post-mortem* examination of a patient with tubercles in the lungs, and in the brain, and exhibited a specimen of the latter, presenting a tubercular mass of the size of an almond, adhering to the membrane covering the upper surface of the cerebellum, and numerous miliary tubercles in the arachnoid at the base of the brain.

Mary Ann Cone, a coloured girl, about 8 years of age, had been for some time affected with cough and emaciation, with dulness on percussion under the clavicles, and feeble respiration in the same region. She had been for the most part confined to her bed, and often moved and fretted without any obvious cause. Her temper was very irritable and ungovernable, and her intellect seemed to be impaired. On Wednesday, Feb. 20, 1839, she was suddenly attacked with violent convulsions, affecting the whole body. I saw her within an hour or two after the attack. She was then insensible, and suffering from general convulsions, her pupils dilated, and not contracting when a lighted candle was brought near to them. Her breathing was attended with loud rattling, as from mucus in the trachea and bronchi. Sinapisms were applied to the legs, &c. No favourable change occurred, and the patient died in about thirty hours after the commencement of the convulsions. On examination of the body, a large quantity of serum was found beneath the arachnoid membrane, and in the ventricles of the brain. The veins of the pia mater were turgid with blood. Small tubercles were scattered over the surface of the brain beneath the arachnoid membrane. A tubercular mass, as large as an almond, was found on the upper surface of the cerebellum near the median fissure, and towards the posterior part. The velum interpositum was thickened, and tubercles seemed to be deposited in it. The upper lobes of both lungs, especially the left, contained a large quantity of tubercular matter, partly in a crude state, and partly in a state of incipient softening. A large tubercular mass of the size of a Madeira nut, and beginning to soften, was found in the bronchial glands, about the bifurcation of the trachæa. A few scattered tubercles were found in the substance of the liver.

Dr. Post also read the following account of the *post-mortem* examination of a case of purpura hæmorrhagica, in an infant three weeks old.

On the 25th Feb. 1839, I was invited by Dr. B. B. Coit to examine the body of an infant three weeks old. There had been hemorrhage during the first and second days of its life, from the sides of the umbilical cord, which had been checked by the application of powdered galls, and by pressure. It had then exhibited purple spots, apparently formed by the extravasation of blood, beneath the skin in different parts of the body; these spots were an inch or more in diameter. The evacuations from the bowels continued for eight or ten days of a black colour, and of a tar-like consistence. Small doses of calomel were then administered, and the evacuations began to assume a healthy appearance. The ecchymosed spots then began to fade away, and no new ones made their appearance. But about the 10th day, a fluctuating tumour began to form about the posterior part of the occipital ridge, which continued to increase during a period of ten days, when it had acquired about the size of a hen's egg, and was very tense, and seemed to cause much irritation. The tumour was opened with a lancet, and black fluid blood flowed from it. On the following day, the child died.

The following appearances were found on examination: body not emaciated; surface extremely pale; ecchymosed spots in several places beneath the skin, scarcely perceptible on its external surface, but very distinct on the internal surface; there was a fluid tumour at the posterior part of the occipital ridge, containing a soft coagulum of blood; this sac was found beneath the periosteum and the bone; small quantities of bloody fluid were found beneath the arachnoid membrane on the surface of the pia mater; bloody serum and small quantities of coagulated blood in the venticles of the brain; cineritious substance of the brain of a pure white colour, so that I could not, in any situation in which I examined it by broad day-light, distinguish it from the medullary substance; lungs remarkably pale; cavities of heart empty; stomach and intestines very pale, and distended with gas; liver of about the usual size and consistence, but of a yellowish brown colour, without any shade of red.

Dr. Post also exhibited a specimen of ununited fracture of the neck of the thigh bone found in the dissecting room, and a specimen of fracture of the thigh bone taken from a Swedish sailor, who died at the New-York Hospital of intercurrent pneumonia of both lungs, while partially convalescent from chronic dysentery, under which he had laboured for some months, and for which he was under treatment at the Hospital. The fracture was produced by a fall on deck, from the height of forty feet, after he had been for some months suffering from the dysentery. The bone was broken in three pieces; the length of the middle fragment was about five inches; bony union had taken place at one extremity, and an imperfect joint was formed at the other.

Dr. G. Buck related an interesting case of injury of the spine by a pistol-shot wound, of which we are promised a detailed report at a future time, the case being still in progress.

Dr. W. P. Buel reported a case of pneumonia in an infant 20 months old, which proved fatal in 48 hours after the first attack, notwithstanding the most active treatment was employed. On examination of the body 24 hours after death, both lungs were found affected, but the left the most so, as had been discovered before death; the inflammation was interlobular, and confined to the posterior part; the lung sank in water. There was considerable bronchial inflammation.

Dr. F. U. Johnston mentioned a case of irregular nervous action in one arm, of two year's standing, in a child 7 years old, cured by actæa racemosa. It was chiefly confined to the right arm, showing itself in a grasping motion; the same irregular action also occasionally affected the feet. A great variety of remedies had been tried without effect. The patient took 15 drops of the tincture, every 2 hours, for two weeks; the affection nearly ceased in ten days, and was entirely gone in a fortnight. The medicine produced no sensible effects but a headache. Dr. J. also alluded to a case of chorea of six year's standing, reported as cured by the same remedy two years since, of which there has been no return.

Dr. Rodgers related the case of a pulsatory tumour, about two inches in diameter, situated over the first spine of the sacrum, and also another tumour, of a similar character, on the right side of the ilium, which communicated with it. This had been seen by a physician a fortnight previous and opened, and a little blood was discharged. On passing in a probe, it was followed by two or three jets of blood *per saltum* — and there had been pulsation in it since that time. Some months previous, severe pain came on suddenly in the back and left hip joint, after pulling on the boots, extending also to the right side, and attended with great feebleness of the limbs — for this, an issue had been applied. Dr. R. thought it an aneurism, and that there was very little to be done. On examination of the patient, he found great distention of the bladder, and drew off three pints of urine with the catheter. On examining the rectum, he found a soft tumour, which did not pulsate, but had the middle sacral artery passing over it. The patient afterwards died, and he expected to find an aneurism extending through to the posterior part of the bone, and an immense sore — but he found no aneurism. There was a tumour over the three upper bones of the sacrum, extending to the sacro-iliac junction. It was of a soft, brain-like consistence, in contact with the lower part of the aorta and internal iliacs, and in this way had pulsation communicated to it.

Regular Meeting, *March* 27*th*, 1839. — *Dr. J. K. Rodgers*, related the *post-mortem* examination of a medical gentleman, 43 years of age, made this day. He had laboured under dyspepsia, and had supposed that his liver was so much enlarged that he could feel it. His left arm had been twice momentarily paralyzed within the last six months, during the performance of operations. Palpitations and distress in the region of the heart had existed at different periods for some time previous. Yesterday, after considerable mental anxiety and disturbance, he found himself paralyzed in bed, mentioned the fact to his wife, and requested medical attendance. He became insensible, the left side became entirely paralyzed, and death occurred in eleven hours. On examination of the body after death, a recent coagulum of blood was found in the substance of the brain on the outer side of the right corpus striatum, nearly of the size of a turkey's egg, extending also into the ventricle. There was hypertrophy of the left ventricle of the heart, without valvular or other disease — no ossification of the vessels of the brain existed. The liver was healthy, and was not enlarged, as had been supposed. The mucous membrane of the stomach was not soft, and was apparently sound. The lungs were perfectly healthy — there was slight adherence of the left pleura.

Dr. Rodgers mentioned that the female, 61 years of age, referred to at the last meeting as a case of dislocation of the head of the os femoris, on the dorsum of the ilium, had died, and that the *post-mortem* examination had verified the diagnosis. The round ligament was torn off, the capsule torn through, and the gluteus medius and minimus, torn up by the head of the bone, which rested on the dorsum of the ilium.

Dr. Washington related a case of arm presentation, which occurred at the Lying-in-Asylum, in which spontaneous evolution occurred, &c.

Regular Meeting, April 24th.—*Dr. Post* related the appearances presented on *post-mortem* examination of a young man, eighteen years of age, who, during the last two years had suffered from pain in the head, and purulent discharge from the ear, and from whose ear Dr. Blakeman had removed a polypus three days previous. The patient had been sufficiently well during the whole period, to engage in his ordinary mechanical employment, and had been able to attend to his business after the operation, until yesterday. He went to bed well last night, felt indisposed this morning, but was still able to set up. Between 7 and 8 A. M., he felt more pain in his head than before, and soon after, expired. The operation was a painful one, but he was better the following day than he had been for some time.

On examination of the brain after death, a large quantity of thick purulent and fœtid matter flowed from an abscess of the size of a hen's egg, in the left side of the middle lobe of the brain. The walls of the abscess were lined with a thick and rough false membrane, of a grayish colour. The abscess communicated with the left lateral ventricle. There was also an opening through the dura mater, and a communication of the abscess with the labyrinth. There was necrosis of part of the temporal bone, which was the source of the matter. It is doubtful whether it had its origin in the bone or in the brain. Dr. P. thinks that it originated in the brain, and that the bone was affected secondarily. There was no paralysis, and no impairment of the intellectual faculties. The immediate cause of death was supposed to be the bursting of the abscess into the lateral ventricle. There had never been any injury of the head. He had broken his thigh a year before.

Dr. Post also mentioned the case of a sailor, in whom purulent infiltration of the lower lobe of one lung was found, after death by pneumonia, on the *fourth* day after the attack. Nearly the whole of the remaining portions of both lungs were in the state of red hepatization. Death was preceded by extreme dyspnœa.

Dr. Isaac Wood related the case of a young lady who fell a few months since, and struck her thigh on a stone sill; the pain felt at the time, was like that caused by striking the nerve at the elbow. Several weeks were suffered to elapse before she was seen by any physician. Dr. W. found a fluctuating tumour, five or six inches in diameter, beneath the fascia, on the back part of the thigh. She is subject to fainting, particularly on taking exercise, as in riding out. She experiences a sensation of fulness of the head when the part is touched, and of excessive pain when it is pressed on its centre. She has lately been troubled with neuralgic pains in both shoulders. The tumour is diminishing in size, and becoming more solid. The general health of the patient is good. The functions seem to be all well performed. Dr. W. thinks it may be an injury which has produced inflammation of the sciatic nerve, and of its covering.

Dr. Hoffman related an interesting case of glossitis which occurred at the New-York Hospital. The patient was a young, robust, healthy-looking man, with a fair, florid complexion. He first noticed a swelling under his tongue, which was not attended with much pain, the day before he entered the hospital. The swelling was evidently that of the sublingual gland ; it raised the tongue, and produced some swelling under the chin. When first seen, the breath of the patient was noticed to have a strong mercurial odour. He was ordered a dose of calomel and jalap, on the evening of his admission. The next day, when Dr. H. first saw him, he was bled, and had leeches applied, followed by poultices. His tongue then swelled rapidly, and reached to the roof of his mouth, producing dyspnœa and difficulty of swallowing. He was now bled to syncope, and an incision was made through the integuments under the chin externally ; the edges of the incision receded, but the loss of blood from it and the opening only afforded partial relief. Free incisions were then made the whole length of the tongue itself, with immediate relief of the symptoms ; and in a few days, all the troublesome symptoms had nearly disappeared. The tongue is now thrown to the left side like that of a paralytic, but it does not affect his speech. Dr. H. thinks that he would probably have suffocated without the incisions in the tongue ; the tongue now looks thinner than natural. The symptoms were very formidable in forty-eight hours from the time of their first appearance. Dr. Hoffman has noticed a mercurial odour of the breath in patients with fracture of the lower jaw, and also in those with diseases of the salivary glands, where mercury has not been taken. Dr. Wood has also noticed the same thing.

City Inspector's Report.—We have extracted from the valuable tables of Dr. Dunnel, such portions as seemed to us to embrace the most important conclusions. The intention of the Author in preparing these tables, cannot be too highly praised. Yet too much dependence should not be placed upon their results. Tables of statistics, when constructed under the most favourable circumstances, can only *approximate* the truth ; but in a great city like our own, where the ignorant and careless of the profession abound, such tables may serve only to propagate error.

ANNUAL REPORT OF INTERMENTS IN THE CITY AND COUNTY OF NEW-YORK FOR 1838,

Commencing with the first day of January, and ending with the thirty-first day of December, Showing the Disease, Age, Sex, Colour, (and Nativity) of the deceased.

By H. G. Dunnel, City Inspector.

Disease.	WHITE.		BLACK.		January	February	March	April	May	June	July	August	September	October	November	December	TOTAL	Under one year.	1 yr. to 2	2 to 5	5 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	Unknown.
	Male	Female	Male	Female																											
Brain, Inflammation and congestion of,	83				6	10	9	7	3	8	2	13	7	6	5	7		20	13	11	4	2	11	8	7	3	3	1			
		62			4	6	4	5	1	8	6	7	8	3	5	5		16	5	12	5	5	4	8	3	2	1	1			
			3				1				1		1					1	1					1							
				7	1		3		2	1							155	1	2	3	1										
Brain, Dropsy of	182				10	14	15	15	17	9	24	27	14	11	10	16		66	62	33	15	1		2			2	1			
		169			19	10	12	13	16	14	23	19	23	8	7	5		67	49	38	12		1	2							
			14		1			2	2		1		2	3	1	2		9	3	2											
				3	1		1							1			368		1	1		1									
Apoplexy	94				6	4	6	1	1	5	44	5	4	6	10	2			1	1		2	13	23	27	11	13	2	1		
		57			4	2	5	2	4	1	26	3	2	3	2	3				1		5	12	11	4	8	14	1			1
			5			2	2							1									1	2	2						
				8	3				1					1	1	2	164						2	1	4			1			
Convulsions	313				29	28	28	24	18	27	26	35	30	24	26	18		260	32	15	4	1	1								
		275			15	23	28	22	26	24	33	31	28	12	9	24		210	29	20	10	1	1	3		1					
			30		2	3	6	3	2	3	3		2	2	3	1		20		1							4	1	3	1	
				20		1	3		3	1	3	5	1	1	1	1	638	11	3	1				1	1	1	1	1			
Epilepsy	7					1			1				2	2	1						1		1	2	1	1	1				
		5				1			1		2			1						1			1			1	1		1		
			1									1													1						

Disease.	WHITE.		BLACK.																											
	Male	Female	Male	Female	January	February	March	April	May	June	July	August	September	October	November	December	TOTAL	Under one year.	1 yr. to 2	2 to 5	5 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	Unknown.
Epilepsy				1						1							14	1													
Hydrophobia	2											2					2		1	1											
Insanity	10				4	1	1		1	3													1	6	3						
		10						2	3	1	2	1				1						1	2	3	2	1	1				
			2		1						1													1	1						
				2	1						1						24										1	1			
Lock Jaw	10							1	1	1	2	2	2			1			2		1	2	4			1					
		3			1		1				1						13				1	1		1							
Croup	100				13	10	11	6	5	3	5	5	5	12	13	12		37	20	33	8					2					
		70			7	10	7	2	3	5	5	1	4	7	8	11		22	15	29	3				1						
			6		1		1		1							3		4	1		1										
				6	1		1					1			1	2	182	3	2		1										
Hooping Cough	90				1	2	5	4	4	2	5	18	25	14	5	5		38	30	19	3										
		117			3	5		4	8	1	8	26	30	15	10	7		39	39	34	5										
			5									2		1		2		1	3	1											
				7							1	1	1	2		2	219	2	1	4											
Lungs, Bleeding from	19					3		1	1	1	1	2	1	2	6	1							7	4	3	1	4				
		5			1				1	1				2							1	1		1	1	1					
			1							1															1						
				4	1		1	1	1								29						1	2		1					
" and membranes inflamed or congested	274				32	33	45	35	20	17	11	10	8	10	21	32		97	35	23	7	2	18	33	26	19	9	3	1		1
		210			16	29	32	21	12	9	13	16	14	15	19	14		67	36	29	9	9	13	14	10	6	5	7	4		1
			32		4	4	4	6	4	1	1	1		4	1	2		9	4	3	1		4	4	3	3		1			
				26	1	6	4	3		4	1	1	1	1	2	2	542	7	3	7	1		5	1		1	1				
" Gangrene of	2							1	1								2				1					1					

Twenty are registered as having died of *Asphixia;* forty-eight of Palsy, of whom thirty-one were past the age of forty years.

Disease.	WHITE.		BLACK.																												
	Male	Female	Male	Female	January	February	March	April	May	June	July	August	September	October	November	December	TOTAL	Under one year.	1 yr. to 2	2 to 5	5 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	Unknown.
Lungs, Consumption of - -	622				44	50	51	39	55	42	45	49	40	56	55	66		7	10	20	20	49	145	176	84	63	34	9	5		
		475			35	48	45	40	41	34	33	28	27	44	54	46		4	7	12	17	59	151	115	59	24	13	10	3	1	
			61		7	10	8	9	3	7	4	1	3	4	2	3			2	5	2	5	14	18	9	3	2		1		
				67	10	7	4	3	4	2	7	4	1	6	11	8	1225	1	2	6	3	5	18	16	12	1	2	1			
" Inflammation of Stomach	28					1	1	2	3	6	6	1		4	1	3		1		1		2	4	8	8		1	2	1		
		33			3		2	2	2	3	9	3	2	1	4	2		4	2	1		2	10	6	5	1	1	1			
			1								1						62						1								
Bowels, Inflammation of - -	85				3	1	8	6	4	8	12	17	9	8	4	5		30	10	9	7	4	3	11	3	3	3	1	1		
		58			6	4	5	5		6	3	8	9	4	5	3		15	9	6	4	2	7	5	6	2	2				
			4				1					1	1	1				2					1	1							
				9	2		1		1			2	1	1	1		156	4				1		1		1			1		1
" Ulceration of - - -	2						1									1								1		1					
		3							1					2						1			2								
			1											1								1									
				1									1				7					1									
" Cholera Morbus - -	13				1		1				3	6	2						2		1		1	4	1	2		1	1		
		11				1	1			1	4	3	1						1	4			4	1		1					
			1			1											25										1				
" " Infantum - - -	227						1			3	47	97	59	18	2			136	76	15											
		190			2		3			1	47	70	50	13	3	1		111	70	9											

"Among the deaths from Inflammation of the Lungs and Membranes are classed deaths reported by Pleurisy, Peripneumonia, Bronchitis, Cold, Catarrh, Influenza, and Pneumonia Typhoides."

In addition, fifty-five cases are recorded as from "Inflammation of the Chest," of which twenty-six occurred during the first year, and forty-six before the age of five years; twenty-eight of these cases terminated fatally during the first four months of the year. It is highly probable that a large proportion of these cases were the Pneumonia of children. The deaths from Dropsy of the Chest were fifty-one; from Inflammation of the Throat twenty-eight, of which, eighteen were under the age of five years.

Disease.	WHITE.		BLACK.		*January*	*February*	*March*	*April*	*May*	*June*	*July*	*August*	*September*	*October*	*November*	*December*	TOTAL	*Under one year*	1 *yr. to* 2	2 *to* 5	5 *to* 10	10 *to* 20	20 *to* 30	30 *to* 40	40 *to* 50	50 *to* 60	60 *to* 70	70 *to* 80	80 *to* 90	90 *to* 100	*Unknown.*
	Male	*Female*	*Male*	*Female*																											
Cholera, Infantum - - - -			10								5	3	2					8	1	1											
				10							3	4	3				437	9	1												
“ Diarrhœa - - - -	51				1	3	1	1	2	2	4	11	8	9	6	3		18	10	9	1	1	2	4	2	1	2	1			
		54			2	4	1	1	1	1	9	10	9	9	3	4		17	10	9	3	1	2	6	2	1	2	1			
			10		2				1	1	3	1			1	1		4							2	1	2		1		
			6				2				1		1		1	1	121	3	1		1			1							
“ Dysentery - - - -	83				1			2	4	2	10	19	21	19	2	3		18	11	16	8	4	3	5	5	6	2	2	2		1
		64			1			1		2	5	14	22	12	6	1		11	13	11	6		6	2	6	1	7	1			
			2								1					1		1							1						
				1										1			150						1								
Liver Inflammation of - -	23				3	4	1	1		4	2		5	1	2			1		1		1	3	5	6	3	2	1			
		21			2	2	1		5	1	1	4	2	1		2			2		1		1	4	4	5	8	1			
			1									1												1							
				3			1			1			1				48							1	1			1			
Heart, or Pericardium, inflamed	8				2			1	1		1	1	1			1		2			1	1	2			1	1				
		5				1			1			1			2			1				1	2					1			
			1						1								14									1					
Fever, [type not named] -	30				4	2	2	1	2	5	4	3	3		1	3			3	2	4	1	5	4	2	8	1				
		21			1	3	3	2	1		1	3	1	5	1			2	1	5	2	2	3	1	2	2					1
			4				1				1		2					1						1	1	1					
				1										1			56	1													
Fever Intermittent - - - -	4				1									3				1					1	1	1						
		5											2	3			9		4							1					
“ Remittent and Bilious -	49				3	1	3		1	1	2	11	11	8	3	5		7	3	6	4	2	9	5	7	2	3		1		

Thirteen cases of death by Cholic are reported; twenty-three by Worms, all under the age of ten years; ten cases of Schirrus of the Liver, all above the age of thirty years.

Disease.	WHITE.		BLACK.		January	February	March	April	May	June	July	August	September	October	November	December	TOTAL	Under one year	1 yr. to 2	2 to 5	5 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	Unknown.
	Male	Female	Male	Female																											
Fever, Remittent and Bilious		46			2	2	3	2	3	2	3	7	8	4	8	2		1	5	8	5	4	9	3	6	2	2		1		
			5		1			1		1	1	1									1			3		1					
				3						1	1					1	103			1		1		1							
" Typhus	45				4	1	5	2	2	4	2	3	7	4	5	6			2		1	2	8	19	5	3	3	1			1
		44			2	3	2	4	3	3	5	3	6	2	6	5		1			3	11	11	9	5	1	2	1			
			7		2	1	1		1	1					1								3	3		1					
				8		3				1	1				2	1	104						1	6			1				
" Spotted	1									1													1								
		1								1							2			1											
" Scarlet	136				17	17	21	21	11	11	10	2	6	6	8	6		11	22	64	27	6	2	1	1						2
		113			14	23	16	14	10	8	5	3	4	6	7	3		7	20	53	26	2	4		1						
			2		1									1					1	1											
				6			2		2			1			1		257			3	3										
Measles	32				5	2	4	1	1	3	3	3		3	3	4		7	7	14	4										
		46			6	6	2	1	3	4	2	4	2	5	8	3		5	14	23	2	2									
			1				1										79	1													
Small Pox	37				9	6	5	3	2	2	1	1	2	2	2	2		7	4	12	3	1	8	1			1				
		45			13	4	7	4	4	4			4	2	1	2		13	13	7	6	4		2							
			7		1	3	1	1								1		2					3	1			1				
				2								1				1	91					1	1								
Chicken Pox		1							1									1													
			1		1												2	1													
Erysipelas	18				1	2	2	1	3	1		2	3	1	1	1		8	3		1	1	1	1	2				1		
		13			3	1	1	2			1	2		2		1		9		2	1			1							
			1										1													1					
				1							1						33							1							
Rheumatism	6				1		1	1		2		1									1		1	2	1	1					

Disease.	WHITE.		BLACK.																												
	Male	*Female*	*Male*	*Female*	*January*	*February*	*March*	*April*	*May*	*June*	*July*	*August*	*September*	*October*	*November*	*December*	TOTAL	*Under one year*	1 *yr. to* 2	2 *to* 5	5 *to* 10	10 *to* 20	20 *to* 30	30 *to* 40	40 *to* 50	50 *to* 60	60 *to* 70	70 *to* 80	80 *to* 90	90 *to* 100	*Unknown.*
Rheumatism		3					2								1										1		2				
			3							1	1	1												1	1		1				
				1									1				13					1									
Mortification	12					1	1		1		3	1		3	2			1		4	1		1	1	1	1	1				
		14			6		2				1	1	1		2	1		2	1	6		1			2		2				
				2				1				1					28							1				1			
Intemperance	19				1	2	1	4	2		1	2		4	2								2	8	6	3					
		11			1				1	1	2	1		1	2	2							4	2	5						
			1		1																					1					
				2								1			1		33						1		1						
Delirium Tremens . . .	52				4	4	2	3	3	7	7	6	6	3	2	5							10	21	15	4	2				
		11			1	1		2			5		1	1									4	4	2	1					
			1		1												64							1							
Drinking cold water . . .	18									5	10	3					.						6	7	2	3					
		4								1	3						22						2	2							
Marasmus, or Emaciation .	232				12	18	15	15	14	18	25	27	31	21	22	14		109	47	28	4	4	6	12	4	9	7		1		1
		200			10	9	12	13	8	11	16	35	28	29	15	14		81	55	12	8	3	9	9	7	6	6	4			
			20		1	2		1	4	2	3	5	2					9	4	4		1			1		1				
				18	3	1	1		2		1	2	5	1	2		470	10	4	1			1	2							
Teething	72				3	2	1	2	2	4	8	16	20	6	4	4		41	30	1											
		69			5		1	2		3	9	18	14	11	4	2		37	30	2											
			3		1								1		1			1	2												
				2				1			1						146	1	1												

Fifty-five deaths from Organic Disease of the Heart are reported; of these, five were under one year; thirty-eight between the age of thirty and eighty. There were six deaths from Aneurism, four males, two females, all during the middle period of life.

	WHITE.		BLACK.		January	February	March	April	May	June	July	August	September	October	November	December	FULL TOTAL	Under One year	1 yr. to 2	2 to 5	5 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	Unknown.
	Male	Female	Male	Female																											
Total Deaths	3801	3105	313	314	550	575	621	538	494	490	795	890	798	660	500	553	7533	2051	983	802	325	299	761	860	564	328	261	148	88	21	41
Still Born	289	182	23	26	29 18 2 3	36 10 2	22 11 1 1	20 15 2 3	23 15 2 4	20 16 3 2	23 13 3 3	30 18 2 1	28 17 1 1	21 16 1 3	16 14 1 1	21 19 5 2	520														
Total Interments	4090	3287	336	340	611	623	656	578	538	531	837	941	845	701	592	600	8053														
WHITE MALES																		1052	467	382	165	132	340	472	322	197	136	59	42	6	28
WHITE FEMALES																		841	465	370	140	140	338	290	82	104	98	79	36	12	10
BLACK MALES																		84	28	20	10	12	44	51	1 32	16	13	4	6	1	1
BLACK FEMALES																		74	23	30	10	15	39	47	27	11	14	6	4	2	2
Rate per cent. of deaths of each class between certain ages.																															
WHITE MALES																		Under 5 years		25.22	2.19	1.75	4.51	6.96	4.27	2.61	1.8	.78		.63	.37
WHITE FEMALES																				22.94	1.85	1.85	4.48	3.84	2.41	1.38	1.3	1.3		.63	.13
BLACK MALES																				1.75	.13	.15	.45	.67	.42	.21	.17	.05		.1	
BLACK FEMALES																				1.68	.13	.19	.65	.62	.35	.14	.18	.07		.07	
PER CENT. TOTAL																				50.91	4.31	3.96	10.1	11.41	7.47	4.35	3.46	1.8		1.46	.54

Note.—Four died of Inflammation of the Bladder; one of Diabetes; seven of Cancer of the Womb, four of whom were from thirty to forty years; seventeen from Puerperal Fever; twenty in Child-bed; thirty from Scrofula; five from Morbus Coxarius; fifteen from Syphilis, of whom five were males, ten females, four of which only, occurred before the age of twenty, these four occurred during the first year.

"Under deaths from Marasmus are included deaths by Decay, Debility, Tabes Mesenterica and Atrophy."

"*Remarks.*—By this report it will be seen that the deaths in 1838 were 679 less than in 1837. Precisely the increase of 1837 over 1836.

"It may be well, for the gratification of those who have not the time or taste to enter into the investigation, to subjoin a running commentary upon some of the details herein presented.

"There are several interesting results to be gleaned from the precise and peculiar mode of arranging these tables, and which could not be shown by any other method.

"Leaving others to account for the causes, while the facts are simply placed before them, I will premise, that while the total of deaths has been 679 less, the variation in prevalent diseases has been immense; from a decreased mortality of 1664 upon some, to an increase of others of 1209.

"The decrease has been chiefly upon the following diseases, viz: of Scarlet Fever, 322; Typhus, 234; Consumption, 233; Convulsions, 178; Measles, 159; Small Pox, 79; Fever, 74; Teething, 96; Inflammation of the Chest, 40; Diarrhœa, 30; Drunkenness and Delirium Tremens, 31; Child-bed, and Puerperal Fever, 24; Dropsy, 19; Bleeding, 12; Mortification, 10; Old Age, 8; and Epilepsy, 5; and 28 less were drowned.

"Of the diseases that have increased, the following stand most conspicuous: of Cholera Infantum, 184. More deaths of this disease occurred this year than ever before, with the single exception of the cholera year, 1834, when it was only 38 greater. In the year 1832, it was 103 less than in this. The increase of Marasmus is 178; Hooping Cough, 156; Unknown, 102; Apoplexy, 53; Croup, 31; Remittent Fever, 28; Drinking cold water, 20; Malformation, 31; Organic disease of Heart, 18; Bleeding from Lungs, 13; Dropsy of Chest, 13; Scrofula, 12; while of casualties, 12 more occurred, and 8 more were killed or murdered.

"The increase of Apoplexy, Unknown, and drinking cold water, occurred chiefly during the extremely warm part of last summer.

"The number of Still-born and Premature, is precisely the same as last year. There is a curious circumstance connected with this casualty, that deserves a remark; that is, the great disproportion of white males to white females, and which does not take place between the sexes of the blacks.

"The greater fatality of male life in the white race commences before birth, and continues throughout the first year of existence. This year almost 51 out of every 100 died before reaching five years of existence, of whom over 25 were white males, and 22 females, — the rest blacks. This inequality does not continue so great after passing the year; there being but trifling variation, (although the males exceed,) between 1 and 2; 2 and 5; 5 and 10; until between 10 and 20 females predominate; between 20 and 30 they are nearly the same; but between 30 and 50, even to 60, the males are almost double in number to females. Between 60 and 70, they vary a trifle; between 70 and 80, the females outnumber the males, but from 80 upwards, they are equal.

"Throughout the whole series there is a total excess of male deaths, of nearly 10 per cent., and this cannot arise from exposure or casualty alone. There is not a disease of childhood, except whooping cough and measles, to which the male deaths do not preponderate. The same thing occurs, with few exceptions, at the other periods of life, excluding the peculiar diseases of females, and old age. Of casualties of all kinds, the males exceed females only 148.

"According to the last census, the female population was not 5 per cent. greater than the male. This constant loss of male population (which, taking the whole series embraced in my last year's report, of 32 years past, has been still greater, having been nearly 12 per cent.,) is in some way or another supplied, or, inevitably, the male race would eventually become extinct. It is for the purpose of ascertaining the facts that a register of births is desirable.

"It is singular, in regard to the deaths of the coloured population, that the males and females differ so little; the coloured females exceed the males only one.

"Of those diseases so fatal under the year, some of them are fatal within a few days of birth. Of Convulsions, 638 died — 501 of them under the year; but 159 of them were not 7 days old; between that and 21 days, 177 died; between that and 2 months, 79; and 28 between that and 3 months, leaving but 118 to divide between the remaining three-fourths of the year. Of Malformation and Premature, 77 died under 20 days.

"I have placed in the tables, on a line with the sex and age, the nativity of the persons; in order, if possible, to show the effect, if any, this may have upon disease. By a careful examination of which it will be seen, that of Apoplexy 49 were natives, and 104 Europeans, of Palsy, Epilepsy, and Insanity, one half the males were Europeans, and of bleeding from the Lungs, they exceed the natives. Of Consumption, 1225, there were natives 665, and Europeans 539 — 11 of adjoining countries, and 10 unknown. The deaths by this disease, excluding casualties of all kinds, is 1 out of 5 of the whole; of which 1 out of 9,293 are white natives, 1 out of 4.566 blacks, and 1 out of 2.877 Europeans. Of Inflammation of the Stomach 28 were natives, and 36 Europeans. Organic disease of the Heart, 27 natives and 28 Europeans. Of Child-bed and Puerperal Fever, 16 natives to 21 Europeans. Of Intemperance and Delirium Tremens, 40 natives to 55. Suicides, 23 natives to 19. 41 natives and 44 Europeans died of casualties. Out of 22 deaths from drinking cold water, 19 Europeans; and of Old Age, 57 natives, 54 Europeans, and 3 from the adjoining British Provinces.

"I have divided Europe into different sections, in the tables, because of the greater number from some sections; they are all included in these calculations.

"It would tend very materially to an insight into these matters if the census gave any clue to the proportion of native population of this city; but as it does not, much must be left to conjecture.

"I have made no estimate of the deaths proportioned to the population; because it will necessarily be very unsatisfactory, until an accurate register is kept, based upon the deaths, and not upon the interments only, in this city.

"The tables are as extensive and minute as can be made; unless the various occupations of the individuals could be obtained, — a thing impracticable under the present law.

"The novel plan of arranging these tables, introduced for the first time last year, has, it will be perceived, been carried into still greater minutiæ.

Memoir of Dr. Physick. By J. Randolph, M.D. — The last number of the Philadelphia Journal of Medical Sciences contains the Biography of the late Father of American Surgery, embellished by a lithographic portrait, from the original painting of our fellow-citizen, H. Inman, Esq. Such an undertaking, so well executed, cannot fail to prove interesting, not only to the medical profession in this country, but abroad also. The great character of Dr. Physick, both as a surgeon and as a man, has not received, for it needed no extravagant panegyric to set it forth to the profession as an example. The simple narrative of his early struggles, his triumphant career, his golden old age, is all that a generous mind requires to stimulate its efforts. There is no eloquence like that of a great and good life. Abstract moral truths touch us not: moral lectures, however they may awaken a momentary enthusiam, make no permanent impression; it is for this reason we have much reason to thank Dr. Randolph for what he has accomplished. We can find but one fault, and that is, the memoir is too short: we get a glimpse of many a good thing, but nothing more. How interesting, for instance, would it be to know more, through this medium, of the private life of John Hunter, the greatest mind that our profession has yet produced; yet an apology for this deficiency is found in the fact, as stated by Dr. Randolph, of Dr. Physick's unconquerable disinclination to appear before the public as an author. The profession will long have another cause of regret from the same source, in possessing no authentic records of his vast experience and singular skill. We can hardly pardon this feeling in Dr. Physick: it is certainly the duty of every physician, not only to acquire knowledge for personal use, but to transmit it from the store-house of his own mind for the benefit of posterity.

Dr. Physick was born A. D. 1768. Having received the degree of A. B. from the University of Pennsylvania, he commenced the study of medicine in 1785. After three years attentive study of his profession at home, he embarked for London. "Dr. Physick's sole object in going abroad, was to acquire medical information. He had no desire to partake of the gayeties and amusements of a European capital. I repeat, with him the grand consideration was the acquisition of knowledge, to this he applied himself with the most ardent devotion, and never permitted amusements of any kind to turn him aside from its pursuit." While in London, Dr. Physick became the pupil and friend of John Hunter, and by his influence was elected house-surgeon to St. George's Hospital: after remaining in this situation a year, he received his diploma from the Royal College of Surgeons. Leaving London for Edinburgh, he continued his professional studies for a year longer, after which period he received the degree of M.D.

Dr. Physick returned to Philadelphia in 1792, and commenced the practice of his profession; at first, his progress was slow, but the yellow fever appearing in Philadelphia in 1793, gave him an opportunity of attracting public attention; he was appointed physician to the Fever Hospital. In 1794 he was elected surgeon to the Pennsylvania Hospital. This period was the dawn of his usefulness and fame.

The principal improvements introduced by Dr. Physick into the practice of surgery were, an improved method of treating ulcers, fractures, dislocations, diseases of the hip joint, and morbus coxarius; a new operation for the cure of artificial anus; a new instrument for excision of the tonsils; a new aneurismal needle, &c.

In 1805, Dr. Physick was elected Professor of Surgery in the University of Pennsylvania. "His manner as a public lecturer was extremely grave, dignified, and impressive. His style was simple, clear, and chaste. He was uniformly careful never to say too much. His choice of language was remarkably good, and he possessed the happy faculty of communicating knowledge agreeably and clearly, to a degree which I have never known surpassed. Perhaps one great reason of this was, that he never undertook to instruct others upon subjects which he did not clearly comprehend himself. He attempted no display of oratory; neither did he permit his reason and imagination to run wild in the regions of theory and fancy. He found much better employment for his mind in constantly studying the realities of life, and in reflecting upon the best methods of promoting the welfare of his fellow-creatures. His lectures were carefully prepared and written out. He did not at all approve of extemporaneous lecturing; as he thought, that in lecturing upon scientific subjects, and more especially such as involved the lives and happiness of our fellow beings, no man had a right to place so much confidence in the strength of his memory as is implied in that practice."

In 1819, Dr. Physick resigned the Chair of Surgery, and was transferred to that of Anatomy, which he continued to fill until 1831. In 1822, he was elected President of the Philadelphia Phrenological Society. In 1824, he was chosen President of the Philadelphia Medical Society. In 1825, he was elected a member of the Royal Academy of Medicine in France, being, probably, the first American who had received that honour.

Dr. Physick died of organic disease of the heart, in December, 1837.

"It must be admitted, that, by the community at large, Dr. Physick's private character was but imperfectly understood. This was owing to the habits of perfect seclusion which he contracted, and to the slight intercourse, other than professional, which he permitted himself to enjoy with his fellow-citizens. It must not be supposed, however, that this isolation arose from moroseness of character, or want of inclination to mingle with society. A satisfactory explanation may be found in the entire self-abandonment with which he devoted himself to his professional engagements. For the reasons above mentioned, he was supposed, by some, to be stern and unfeeling; and wanting in the kinder sympathies of our nature. There could not be a greater misapprehension. His feelings were tender and susceptible in the extreme"

Two Cases of Lithotrity. By ALBAN GOLDSMITH, M.D. Late Professor of Surgery in the College of Physicians and Surgeons, New-York.

CASE I. Mr. T. aged 30, a native of Louisiana, of slender form and delicate constitution, having for several preceding autumns suffered from repeated attacks of intermittent fever, applied to me, in July; with a stone in the bladder. On sounding him, I found that the stone was not large, but the bladder was extremely irritable, and there was some mucous discharge from the urethra. I commenced the daily use of the catheter, demulcents, &c., for the purpose of allaying the irritability of the bladder.

August 20. I introduced the *brise-pierre*, and grasping a stone, an inch in diameter, broke it once. The next day there was pain over the pubis, and an aggravation of all the symptoms. Some *detritus* passed; under the usual treatment, however, the pain, &c., soon subsided.

September 3. I crushed the stone twice; no irritation followed; a considerable quantity of *detritus* passed after this sitting. He had seven more sittings, none of which were followed by any irritation of consequence. I allowed four or five days to intervene between each sitting, and I found that after the seventh operation, that the last fragment had passed, and that all the symptoms of stone had disappeared. The calculus was composed of uric acid.

Case II. Mr. P., aged 60, farmer, a native of England, residing near Morristown, N. J., applied to me in September last, with the symptoms of stone in the bladder. On sounding him, I found a middle sized stone; I recommended Lithotrity, and went to Morristown April 11, to perform the operation. I introduced the *brise-pierre* of Huerteloup, grasped a stone an inch and a quarter in diameter, and broke it once. Some slight irritation followed, but the next day it passed off without preventing his ordinary attention to business.

April 20. I gave him another sitting, and broke the stone twice; no irritation followed, and he passed a large quantity of detritus.

I did not operate again until May 18, when he came to my office; I then broke several fragments. Every fourth day after this, for six successive sittings, I continued to break up portions of the stone. After the sixth sitting, all the symptoms of stone subsided; he has returned to Morristown entirely relieved; during the whole process, he suffered very little pain, and was not confined an hour. The calculus was composed of phosphate of lime.

Abstraction of the Uterus.—Since the printing of Dr. Griscom's paper on the "Abstraction of the Uterus" was finished, we have received a communication from Dr. H. F. Noyes of Pulaski, N. Y., the physician who was called in consultation to the unfortunate case, related as having occurred there. We regret exceedingly that Dr. Noyes's communication did not arrive in season to be introduced into Dr. Griscom's paper, but we have also the satisfaction of knowing that the particulars already stated, are substantially correct. Some portions of the history of the case being more minutely detailed by Dr. Noyes, we shall publish a part of his letter.

"On the morning of April 29th, 1838, I was called in consultation with Dr. * * * * * to see Mrs. W. who was in labour, and was said to be dying; I arrived about one o'clock, A. M., and found myself in the midst of one of the most unparalleled scenes of distress and agony that could well be imagined; the doctor delivering what he called an "adhered placenta" — the father and husband of the patient, and the female attendants, uttering loud lamentations, and the patient herself, at the top of her voice, telling the doctor he was killing her, and begging him to let her alone: I placed my finger upon the pulse and found that she was rapidly sinking, at the same time inquiring of the doctor what was the nature of the case; he told me that it was an adherent placenta, such as he had never before met with in his practice, or read, or heard of before, and that he was nearly through with its delivery, and should finish in a minute or two, which he did, in about the time specified, remarking to me "that it comes like tearing raw sheep-skin," that the placenta adhered to the neck and mouth of the uterus, and that there were some shreds of it left, but that he thought they would be discharged with the lochiæ." I told him that the patient was dying, but at his request made a hurried examination *per vaginam*, found shreds of cellular tissue and membrane reaching nearly or quite to her knees, but found no uterus: on telling him this he remarked that it was there, and had contracted well, and placing his hand above the pubis, he said he could feel it contracting. By this time, the woman, from the relaxation of the muscular power and the near approach of death, began to slide from her seat, (made by tying three chairs together) and was prevented from descending to the floor by my seizing her under the arms and requesting assistance to lay her on the bed: after which she lived about ten or fifteen minutes. From the time of my arrival to her death was about twenty or twenty-five minutes; the attendants informed me that the doctor had been at work an hour and a half in removing the supposed placenta before I arrived. I would, finally, remark that the patient was a large and rather fat woman, that this was her fourth child which was large and healthy, that the labour had continued about fifteen hours, the doctor himself admitting that it was tolerably easy, and that the woman was quite comfortable after the delivery, until he commenced operating." The same letter contains the information that this individual is held to bail for the sum of $500 and that his trial will probably take place the ensuing autumn.

Having finished the first number of our new undertaking, we offer it to the profession as an illustration of the plan we have adopted, and of the course we mean to pursue. We do not wish to be understood to state that no improvements are contemplated, for there are difficulties attendant upon every new undertaking, that will prevent the completion of what is known to be right, and of imperfections, consequent upon inexperience, which time and practice alone can correct. The great object of our enterprise, is the collection and publication of original matter. In this, the profession must join and help us; not only with counsel, but with the intellect and pen.

It must be recollected, that good essays upon scientific subjects are not efforts of the imagination, but the result of much experience and observation. We want no theoretical speculations, however brilliant and well written; we want plain practical common sense, the result of good opportunities and much reflection. The editors, therefore, beg leave distinctly to repeat to those who wish the undertaking success, that they must come forward when called upon, and give their assistance. For ourselves, we mean carefully and honestly to discharge our duty, by using every effort in our power to elevate the standard of the professional character and to promote the feeling of union and fellowship.

It will be observed, that our notices of new publications occupy but a small portion of the volume. It is our intention to condense, still more, this portion of the work; not by diminishing the number of pages allotted to it, but by making each notice as concise as possible. Our plan, it will be perceived, is to intrust each work to an individual, who, from the peculiar direction of his studies, appears to us most likely to fulfil the duty assigned to him. By adopting this method, we free ourselves from all responsibility, as to individual opinions that may be expressed. We are responsible, however, for the selection of proper persons, and are guarantees that nothing of personal abuse or provocation, shall enter our pages. Indeed, we believe that some who read this part, will be apt to think that rather *too much good feeling* pervades it. This will be explained, when our readers are told, that almost every work noticed in the present number, was selected as worthy of particular commendation. Of two works sent us for review, one has received very little praise. It has been a matter of some discussion with us, whether we should be silent in relation to books that are unworthy of praise, and our conclusion is, that we will notice every work, at least every American work, that is put into our hands, with as much honesty and fairness as we can. If the standard of criticism was higher than it is, and if the profession felt its power more deeply than they do, no one could doubt its beneficial results.

In the arrangement of the third part, or that of "Scientific Intelligence," we have introduced, in the first place, the "Proceedings of our different Medical Societies." This idea, we believe to be a good one. By making such proceedings public, we shall contribute to remove any unjust prejudices that may exist in relation to such associations, and, at the same time, give to the profession at large, some idea of the abilities and opinions of many of their fellow-practitioners. We have long been of opinion, that the chief good in such associations is the facilities they afford to judge of the capacity and acquirements of those we are associated with, and are liable to meet every day in consultation.

The extracting of matter from foreign sources forms the least ambitious part of our plan. It has been thought that a translation of an essay on a subject not much cultivated in this country, and not accessible to a majority of our readers, might prove acceptable; accordingly it has been introduced. In the other selections, our intention has not been entirely fulfilled, owing to a miscalculation, on our part, as to the space the original papers and bibliographic notices would occupy. Our intention is to make these selections few and full, rather than numerous and imperfect. At first sight, this may not seem the best arrangement; but on reflection, we think it will appear, that if the acquisition of knowledge is the object, it is better to know much of a few subjects, than to gain but a glimpse of many. This subject is, however, open for further consideration. In conclusion, we would pay the publisher a deserved compliment for the style in which the work is executed, and express our just appreciation of his enterprise and courtesy.

College of Physicians and Surgeons. Dr. Delafield, Professor of Midwifery, and Dr. Alban Gold-Smith, Professor of Surgery, have resigned their Professorships in the College.

Dr. Robert Watts, Jr. of this city, has been appointed Professor of Descriptive Anatomy. This appointment, we believe, will give universal satisfaction to the profession. Dr. W. has already passed the *ordeal* of Lecturer on Anatomy, in which capacity he gave evidence of uncommon talent. Dr. W. Parker of Cincinnati, has been appointed Lecturer on Surgery, and Dr. J. R. Manley of this city, Lecturer on Midwifery. The new practice of appointing men as Lecturers, before establishing them as Professors, is a vast improvement upon the old plan. But it is not equal to the mode by *concours.* This subject is of great importance, and will engage our particular attention at an early period.

New-York Hospital. Dr. A. H. Stevens, has resigned his situation as one of the attending surgeons of the Hospital; the Governors, in acknowledgement of his services during a period of more than twenty years, have appointed him a consulting surgeon to the institution.

City Medical Appointments. Dr. A. Vaché has been appointed resident physician to the Bellevue Hospital, *vice* Dr. Wm. Wilson, removed; Dr. Tonelier, physician to the Halls of Justice, *vice* Dr. Gilman, removed; and Dr. W. A. Walters, City Inspector, *vice* Dr. H. G. Dunnel removed: these appointments are all political. We take this opportunity to express our high sense of the manner in which the late City Inspector has discharged the duties of his office. The present officer, Dr. Walters, informs us that it is his intention to follow Dr. Dunnel's plan, and to improve it if possible.

The trial of Septimus Hunter for mal-practice in the case reported by Dr. Griscom, was concluded on Saturday, June 15.

Verdict: Manslaughter in the fourth degree, with a recommendation to mercy. *Sentence:* —Imprisonment for one year in the Penitentiary. The previous good character of Hunter, was the probable reason why this, the mildest punishment that the law could inflict, was imposed upon him.

Dr. Paine's New Work. The Medical and Physiological Commentaries, by Dr. Paine, are now in press, and will be published some time during the ensuing season. From our personal knowledge of Dr. Paine as an acute and independent observer, from his extensive acquaintance with the literature of the profession, as well as from his high standing as a practitioner, we have every reason to believe that his forthcoming work, constituting two large octavo volumes, will be one of no ordinary interest. The subjects to be examined in it, as stated in the prospectus, relate to obscure and controverted questions in pathology; and embrace a critical review of some of the most important doctrines in physiology and medicine.

Dr. Stewart's Translations. Dr. James Stewart of this city has now in press, a translation of Billard's well known and valuable work on the Diseases of Infants. He is also preparing a translation of M. Berton's work on the Diseases of Children. This, like the former work, is founded on extensive clinical, physiological, and anatomical observations; and is intended to extend the system adopted by M. Billard, to the whole period of childhood, from the time of dentition up to the age of puberty.

Dr. C. A. Lee of this city, proposes, as will be seen by referring to the advertising sheet, a new Medical Flora of North America. This work, we are informed, is as yet entirely prospective. Dr. Lee, however, has for some time been directing his attention to the subject, and brings to his labour a mind already trained to careful and laborious investigation.

G. F. HOPKINS, PRINTER, 2 ANN-STREET, NEW-YORK.

CONTENTS

OF THE

NEW-YORK JOURNAL OF MEDICINE AND SURGERY.

No. II.—October, 1839.

PAGE

Art. I. A Comparative View of the State of Medicine in the Years 1733 and 1833, an Introductory Lecture. By Joseph Mather Smith, M.D., Prof., &c. 245

Art. II. Practical Observations on Chorea Sancti Viti. By David M. Reese, A.M. M.D. Prof. &c. 267

Art. III. Practical Cases of Ovarian Disease. By G. S. Bedford, M.D. Prof. &c. 277

Art. IV. Observations on Delirium Tremens. (Read before the New-York Medical and Surgical Society.) By John L. Vandervoort, M.D. 294

Art. V. A Case of Dislocation of the Patella upon its Axis, with Comments. (Read before the New-York Medical and Surgical Society.) By John Watson, M.D. 302

HOSPITAL REPORTS.

Statistics of the Bloomingdale Asylum for the Insane. (Read before the New-York Medical and Surgical Society.) By James Macdonald, M.D.; late Resident Physician of the Bloomingdale Asylum, &c. . 307

Report of Cases of Un-united Fracture, treated at the New-York Hospital. By John S. Heard, M.D; late House-Surgeon. 343

Case of Hydrophobia. Reported by Richard H. Coolidge, one of the Assistants of the Bellevue Hospital. 359

Case of Femoral Aneurism. Ligature of the External Iliac Artery. Cure. By James H. Dickson, M.D. 361

An Essay on the Indications for Tracheotomy, founded on the Absence of the Vesicular Murmur of Respiration. By J. B. Barth, Clinical Chief to the Faculty of Medicine, Paris, &c. Translated from the French, by John Punnett, M.D. 364

REVIEWS.

Maladies des Enfans. Affections de Poitrine. Pneumonie. Par MM. Rilliet and Barthez. (A Treatise on the Pneumonia of Children.) Paris.

II. A Treatise on the Diseases of the Chest and on Mediate Auscultation. By R. T. H. Laennec, M.D. Translated by John Forbes, M.D., &c. *To which are added the Notes of Professor Andral.* Translated and accompanied by Observations on Cerebral Auscultation. By John D. Fisher, M.D. &c.

III. An Elementary Treatise on Auscultation and Percussion. By A. Raciborski, M.D. Translated by Mintum Post, M.D. 383

A Treatise on Club-Foot and Analogous Distortions, &c. By W. J. Little, M. D. London.

II. A Lecture on Loxarthrus, or Club-Foot. By Thomas D. Mütter, M.D. Philadelphia. 400

CONTENTS.

BIBLIOGRAPHIC NOTICES.

PAGE

Traité des Difformités du Systéme Osseux, &c. (A Treatise on the Deformities of the Osseous System, with an Atlas of 174 plates.) By F. Humbert and N. Jacquier, M.D. 413
On Granular Degeneration of the Kidneys, &c. By Robert Christison, M.D., F.R.S.E., &c. 415
A Treatise on the Diseases of Children. By C. M. Billard, M.D. Translated, with an Appendix. By James Stewart, M.D. . . . 434
A Treatise on the Eye, &c. By Wm. Clay Wallace, Oculist, .
Intermarriage, &c. By Alexander Walker. 439
A Winter in the West Indies and Florida. By an Invalid. . . . 440
An Introduction to the Study of Chemical Philosophy, &c. By J. Frederick Daniell, F.R.S., &c.
II. Elements of Chemistry, Theoretical and Practical. By D. B. Reid, F.R.S., &c. 441
Total Abolition of Personal Restraint in the Treatment of the Insane. By Robert G. Hill. 444
A Guide to Mothers and Nurses in the Management of Young Children. By Caleb Ticknor, M.D. 446
Observations on the Typhoid Fever of New-England. By Enoch Hale, M.D. 447
Animal Mechanism and Physiology. By John H. Griscom, M.D. . 447
Steggall's Manuals for Students. 448
A New Dictionary of Medical Science. By Robley Dunglison, M.D. 448

SCIENTIFIC INTELLIGENCE.

Proceedings of the New-York Medical and Surgical Society. . . . 449
Operation for Spermatocele. 458
Extirpation of the Womb by Ligature. 459
Treatment of Lateral Deviation of the Spine. 459
Operation for Artificial Anus. 460
Treatment of Vesico-Vaginal Fistula. 461
Wounds of the Head. 463
Lesion of the Trunk of the Ganglionic System of Nerves. . . . 464
Successful Operation for Remedying a Deformity of the Leg. . . 464
Perforations of the Stomach from Poisoning and Disease. . . . 466
Disorders of the Brain, connected with Diseased Kidneys. . . . 470
Tubercles of the Brain. 471
Cases of Hydrophobia. 480
Anamolous Disposition of the Colon. 482
Fistulous Opening communicating with the Œsophagus. . . . 484
Contributions to Intra Uterine Pathology. 484
New Mode of preparing the Tincture of Digitalis. 485
Effect of Bloodletting and Blisters to the Chest in the Pneumonia of Children. 486
Present Condition of Medicine in Spain. 487
Ivory Bougies. 489
New Mode of Cauterizing the Urethra. 489
MISCELLANEOUS NOTICES. 490

THE

NEW-YORK QUARTERLY JOURNAL

OF

MEDICINE AND SURGERY.

FOR OCTOBER, 1839.

ART. 1. *A Comparative View of the State of Medicine in the Years* 1733 *and* 1833, *an Introductory Lecture.* By JOSEPH MATHER SMITH, M.D., Prof. &c.

IT is a profitable, and at the same time, an agreeable occupation to look back into the history of the past, and to remark the changes which the healing art has undergone in advancing from age to age. In such a retrospect, it is curious to observe how tardily medical improvements have taken place, and how slight is the impression they produce on the mind, until, collectively, they have acquired a magnitude that renders them strikingly conspicuous. The periods within which great revolutions have occurred in medicine, vary exceedingly in length. Whilst some of them extend over long intervals of time, others embrace, comparatively, but a few years. Among these periods there is one, which, more than any other, has been, specially, fertile of various and signal improvements. I allude to that which comprises the last one hundred years. As the advances of medicine in this space of time are worthy of being recounted on an occasion like the present, I would respectfully invite your attention to a notice of them, and especially to a review of the state of medical science at the two epochs which bound the period in question, namely, the year 1733, and the year 1833.

It would be a subject of interesting inquiry, how far the progress of medicine has been influenced by political power, popular opinions, discoveries in other departments of science, and improvements in the arts. Such an inquiry would doubtless disclose many of the causes which have promoted and impeded the progress of the healing art. Every important change, in the moral and political world, has a bearing more or less direct upon the interests of science. Circumstances apparently incidental, and, in themselves, at the time, of little moment, are sometimes ultimately productive of results far exceeding, in magnitude and importance, the boldest conceptions of the imagination. Influences which are nascent to-day, may to-morrow annihilate those that have been in powerful action, and, at the same time, give energy and direction to others which had been feeble or slumbering. It is thus that, at one time, we see political events obstructing or advancing philosophy and the arts, and, at another, philosophy and the arts controlling or turning the course of political events. The interests of learning are affected more, perhaps, than those of any other human pursuit by the ever-varying circumstances with which they are proximately or remotely connected. Hence it is that, in flowing through successive ages, the great stream of science has not equally widened and deepened in equal periods of time, but has been slow or rapid in its enlargement, according as passing events have diverted from, or directed into its channel the currents of human thought.

To illustrate the extent to which the progress of medicine has been influenced by the causes referred to, would require a wider scope of research than is afforded by the limits of an introductory lecture. But though such an inquiry forms no part of our purpose, it may not be uninteresting to take a general view of the epoch with which, in reference to medicine, we design to compare the present. History is the more attractive when it assembles contemporary individuals and synchronistic events, and faithfully exhibits their distinguishing characters and relations to one another. Leaving the present then, and returning back through the last one hundred years, let us contemplate the world as it was in 1773.

In looking around on the state of things at this period, our attention is first arrested by the principal contemporary sovereigns. On the British throne is George II. in the seventh year of his reign. France is governed by Louis XV.; Spain by Philip V.; Germany by the Emperor Charles VI.; Poland by Augustus; Prussia by Frederick William I.; Denmark by Christian VI.; and Russia by the Empress Anne. At the head of the Roman hierarchy is Clement XII., and Mahomet V. rules the Ottoman empire. Under the sway of these leading potentates the political, social, and religious concerns of every civilized nation are so regulated and governed as to secure the permanence of regal authority.

Subject to the reigning princes, on every side, are men distinguished in all the higher pursuits of life. It is the age in which flourish, as statesmen or warriors, Sir Robert Walpole, the Duke of Villars, Admiral Vernon, the Earl of Stair, Prince Eugene, Count de Saxe Maurice, the Earl of Bathurst, and Count de Belleisle. Among the writers, chiefly miscellaneous, are Montesquieu, Lord Kames, Fontenelle, Voltaire, Richardson, the Earl of Chesterfield, Bolingbroke, Rollin, J. B. Rousseau, Swedenborg, and Cadwallader Colden. In the circle of junior writers of the same class, are Hume, Johnson, Fielding, and Franklin. Of the poets risen, or advancing to the summit of their reputation, are Pope, Blair, Swift, Allan Ramsay, Thomson, Dyer, Young, Philips, and Metastasio. In divinity and ecclesiastical literature stand pre-eminent, Butler, Sherlock, Middleton, Mosheim, Hoadly, Warburton, Stackhouse, and Massillon. Below these in age, but equally gifted, are Doddridge, Wesley, Thomas Newton, and Edwards. In mathematics are Wolff, Simpson, Halley, Maupertius, Maclaurin, Euler, and Bradley. In architecture and the imitative arts of painting and statuary are, Zablia, Rysbrach, and Hogarth, all in the maturity of manhood. In music, Handel, at the age of nearly half a century, is without a rival.

Next to these eminent individuals, we may notice the more generally interesting events of 1733. The death of Augustus of Poland occurring in this year, gives rise to a new continental war. The Emperor resolves to place the Elector of Saxony on the throne of that kingdom, and is opposed in his scheme by France, Spain, and Sardinia; these latter powers favouring the claims of Stanislaus. Prince Eugene, at an advanced age, is again called to head the imperial troops, after being in retire-ment for fifteen years in Italy. It is in this year that the accomplished and chivalrous Oglethorpe is engaged in founding the colony of Georgia; and that Berkeley, whose visit to America a few years before, and whose liberal benefactions to our infant literary institutions render his name familiar to us all, is created Bishop of Cloyne. It is the year in which the publication of the infidel writings of Voltaire occasions a warrant to be issued for his arrest, and his letters are ordered to be burnt. It is at this time, also, that we observe the origin of Protestant missions, in the project of the United Brethren for evangelising the world, and the embarkation of the first three missionaries for a foreign land.

Such are some of the living individuals, and passing events of 1733,—individuals whose actions and works illustrate the end of the first third of the eighteenth century, and events of deep interest in reference to the future. A more detailed view of the state of things at this period, would show that the strong arm of power, however heavily it may press, here and there, upon the civil and religious rights of mankind, weighs but lightly upon the interests of literature, philosophy, and the arts. In these the votaries are numerous, and their achievements many and brilliant.

But who, it may now be inquired, are the prominent physicians of 1733, and how do they rank with their political, literary, and philosophical contemporaries? What are their doctrines, and their principles, and modes of practice?

In the multitude of medical men that here crowd upon our notice, may readily be distinguished those most entitled to regard. They are known by the number and character of their works, and the exalted stations they occupy. First, in the list of pre-eminence, and above fifty years of age, are Stahl, Hoffman, Boerhaave, Winslow, Cheyne, Mead, Petit, Morgagni, and Heister. Below the age of fifty, and above twenty-five, are Le Dran, Cheselden, Smellie, Alex. Monro, Albinus, Van Swieten, Senac, Huxham, Lieutaud, Gaubius, Sauvages, Pringle, and Linneus. To this catalogue must be added, Boylston and Nicoll in this country. In the genius and learning of these few individuals, the medical profession is represented in its most favourable character. There are others whose talents and labours give them a limited reputation, and place them above mediocrity; but, to name them would scarcely add lustre to the catalogue given.

Of the occurrences relating to medicine at this time, a few particularly invite our attention. It is in 1733, that Heister, Professor at Helmstadt, publishes his Anatomy, a Compendium, highly valued, though inferior in merit to the system of Winslow, which appeared the year previous. At the same time, Cheselden issues his splendid work on the bones, which he dedicated to Queen Caroline, to whom he had been appointed chief surgeon. Simultaneously with these publications is the appearance of Cheyne's "English Malady, or Treatise on Nervous Diseases," a very popular work, containing an interesting account of his own case. Occurring at this period, is an incident, in which arbitrary power is seen sternly exercised in dispiriting genius, and frustrating an object of laudable ambition. Linneus, at the age of twenty-six, after exploring the botany of Lapland, and publishing an account of its plants, being in poverty, attempts to support himself by delivering private lectures at Upsal; but the statutes of the University allowing no one to lecture who is not a graduate, and Rosen, the professor of anatomy, informing against him, he is obliged to desist and seek other occupations. The annals of chemistry in this year are enriched by the discovery of the metallic nature of arsenic and cobalt. In regard to the epidemics of the period, the one to which the attention of physicians is universally called, is the influenza or epidemic catarrh. Commencing in America, the disease travels eastward, spreads over Europe, and ultimately extends to the Island of Bourbon, and probably over the whole earth.

Turning to another view of the era we are contemplating, let us glance at the medical institutions and general character of the profession.

In most of the countries of Europe are found sources of elementary instruction in the healing art. But the great fountains of medical knowledge are at Leyden, Halle, and Paris. Though infirmaries had their origin as far back as the time of Justinian, their number is yet small, and their organization and economy in many things defective. The only general hospitals in London are those of St. Thomas, Guy, St. Bartholomew, and Westminster. St. George's was founded in the year on which our attention is fixed. In Paris are the Hôpitaux, Hôtel Dieu, La Pitié, La Charité, St. Louis, and a few others. The Royal Infirmary of Edinburgh, projected in 1721, and though not opened until several years afterwards, is rising into notice. These institutions, and others of a similar character in different parts of Europe, in fulfilling the humane purposes of their creation, afford little or no systematic instruction in clinical medicine and surgery. The importance, however, of practical illustrations at the bed-side is beginning to be felt as essential in a medical education.

In regard to the majority of those engaged in the practice of the healing art, little can be said in their favour. Excepting those who have enjoyed the advantages of a regular medical education, the greater number are distinguished by their ignorance and imposing pretensions to skill. The line of distinction between medicine and surgery is, for the most part, well defined and jealously preserved. The physicians everywhere take precedence, and, in England and Scotland, are incorporated into Royal Colleges; whilst the surgeons are incorporated with the barbers, and the apothecaries with the grocers. It is chiefly in the first of these classes are found the learning and science which give elevation to personal character, and claim for medicine the rank of a liberal profession. But, as if learning and science, in themselves, are undeserving of homage, it is curious to observe the extrinsic means resorted to by the most distinguished physicians of the age, in common with the members of the other learned professions, to secure respect and reverence. The means alluded to are a gravity of deportment, and a style of dress, calculated to impose on common minds, and inspire confidence in the mysteries of physic. This feature in the medical character of the day is not confined to the seniors of the profession, but is found in the youngest aspirants for practice. Indeed, it is said, that "the physicians in Hogarth's prints are not caricatures; the full dress, with a sword and a great tie-wig, and the hat under the arm, and the doctors in consultation, each smelling to a gold-headed cane, shaped like a parish beadle's staff, are pictures of real life in his time, and a young physician, thus equipped, walked the streets of London, without attracting the eyes of passengers." Added to these means of impressing the public mind, is the general practice of writing and prescribing in Latin, the language, at this time, common to the professors of all the higher departments of learning.

These more conspicuous objects of remark being examined, our attention is next invited to the actual state of medical science in 1733. In entering this field of observation, it is obvious, that our notice of particulars must be very brief and general.

Anatomy being the basis of medical science, is of course the first study in every plan of medical education. Hence the importance of perfecting this department has always been acknowledged. The zeal and success with which it was cultivated in the earlier part of the eighteenth century, is creditable to the physicians of the times. We have before had occasion to mention the names of Heister, Winslow, and Cheselden. Availing themselves of the knowledge of their predecessors, and also of their great contemporary Ruysch, who died two years prior to the era we have in view, they were enabled to present to the profession systems of anatomy exceedingly correct and well arranged. Their works, however, are mostly confined to special anatomy, and consequently are defective in those minute views of the elementary textures and relations of parts from which are deduced many of the truths of physiology and pathology, and the rules of operative surgery. Among the more celebrated junior teachers of anatomy at this time, are Monro at Edinburgh, and Albinus at Leyden; the former having been appointed professor of that department at the age of twenty-three, and the latter at twenty. Of those more advanced in age, no one is more distinguished than Morgagni of Padua.

The chemistry of this period is nothing more than an assemblage of facts observed as occurring, under certain circumstances, when bodies act on one another at insensible distances. The laws that govern the changes that take place during chemical action, as well as the nature of the changes themselves, are unintelligible. It is true, in some instances, theoretical expositions are given; but they are, for the most part, fanciful. Such is the theory explanatory of the nature of fire and chemical inflammation, first suggested by Becker, and afterwards adopted and amplified by Stahl—a theory which supposes a principle, called *phlogiston*, to be present in all inflammable bodies, and which is separated from them in the process of combustion; whence they are entirely changed in their qualities.

It is interesting to observe how many of the embarrassments in the medical researches of the time are referrible to deficiencies in chemical knowledge; and it is equally so, to remark how ingeniously a great amount of error is intermingled with truth and wrought up into plausible and even beautiful theories. The more prominent examples of this kind are the productions of STAHL, HOFFMAN, and BOERHAAVE. To these illustrious men is assigned, by common consent, the first rank of eminence. Their works are every where read; and their *dogmata*, promulgated, *ex cathedra*, carry with them an authority that commands general attention.

Our limits precluding a particular analysis of their respective hypotheses, we shall merely advert to their cardinal principles. To understand these, however, it is important to premise that from the time of Hippocrates, and especially of Galen, every medical theory had been founded on the assumption that the humors of the body were the seats of disease. But though humoral doctrines had long prevailed, physicians had been divided into different sects, of these the principal were the Methodists, the Galenists, the Chemists, the Mechanicians or Mathematicians, the Spiritualists, and the Eclectics. These sects had their origin in the different views and modes of reasoning prevalent among physicians, in respect to the condition of the solids and fluids in the normal and morbid states of the system. They had successively risen, and though some of them had lost their distinctive characters, the principles of all of them were extant in the earlier years of the eighteenth century.

STAHL, whose doctrines we shall first notice, was born in Franconia, and is now, at the period of which we speak, in the seventy-third year of his age. He was educated in the school of the chemists, and early in life was appointed, through the influence of Hoffman, to a medical professorship in the new university of Halle. To the interests of this institution he consecrated his life; and now, in his old age, enjoys, with his colleagues the satisfaction of seeing it contending for superiority with the most distinguished schools of the age. Applying himself to the study of chemistry and pathology, his genius was soon displayed in new and enlarged views of these departments of science. Of him as a chemist, and especially as the chief author of the theory of *phlogiston*, we have already spoken. We are now to regard him as the expounder of the nature of diseases.

From attentively examining the phenomena of the living human body, and especially observing the changes which substances undergo when received into it, he was led to reject the doctrines of the chemical and mechanical physicians, and to refer the various states of the system to the operations of an intelligent, spiritual power, superadded to the organization. He is accordingly regarded as a metaphysical pathologist. In fact he adopts substantially the leading tenet in the hypothesis of Van Helmont, the founder of the metaphysical school, who died in 1644.

To the power or agent in question, Van Helmont had given the name of *archeus*, and Stahl, believing it to be the rational soul, calls it *anima*. All the functions of the body, he contends, are under its control; and that, when their healthy condition is disturbed, it is immediately exerted in restoring them to a sound state. The body in health, he says, is inclined to plethora, and that the dangers and evils of this state are obviated by the *anima* inducing regular and sufficient excretions. When, in disease, the discharges are excessive, or otherwise, it is active in diminishing, or increasing them; and should its power be inadequate to the purpose, it is then the province of the physician to aid its operation. Interference, however, he believes is seldom necessary, and, when necessary, he asserts that mild measures only are required. He accordingly condemns, in general, all heroic remedies. His practice, in a word, is entirely based on the hypothesis, that the morbid actions of the system, being induced by the superintending intelligent power, are always salutary in their tendencies, and, consequently, should not be roughly promoted or retarded, but carefully watched and regulated.

In exhibiting the important truth that there is a principle in the body which occasions elementary combinations and functional phenomena that mere physical agencies are incapable of producing, Stahl forcibly invalidates the doctrines of the chemists and mechanicians. In this respect his theory possesses superior merit. In another view, however, it is liable to objection. By relying too much on the curative power of the *anima*, his practice is often extremely inefficient. Moreover, by making the metaphysical characters of disease the chief objects of medical study, he inclines his followers to consider healthy and morbid anatomy, and diagnosis, as of little importance. The work in which his hypothesis is elaborately stated, is entitled "Theoria Medica Vera," and was published in 1708.

It is obvious that not until medicine shall assume the character of a demonstrative science, will physicians agree in any one system of theory and practice. The state of medicine in 1733 possesses nothing of that character, and accordingly we are not surprised to find doctrines prevailing which differ essentially in their principles. The pathology of Stahl, though supported by all his ingenuity, leaves room for the display of other theories, equally or more attractive and popular. Such is the theory of Hoffmann. This distinguished physician was born in the same year as Stahl, viz. 1660, and what is remarkable, besides being of the same age, they have, during a great part of their lives, been associate professors of the same branches, in the same university, the latter being adjunct to the former.

To a fertile genius, HOFFMANN unites great learning and untiring industry. In his medical inquiries he exhibits a mind freed from the strong prejudices of education, and bold in original research. Hitherto, as we have before stated, disease had, for the most part, been considered as depending on certain conditions of the blood. The solids had scarcely been adverted to as the primary seat of disease. Baglivi, professor of medicine and anatomy at Rome, in the course of his researches was led to the conclusion, that the primordial deviations from health take place in the moving fibres. Animated by the discovery, he abandoned the beaten tracks of the humoral theorists, and confidently asserted that disease consisted in certain alterations in the state of the solids, and that when the fluids are disordered they had become so consecutively. This novel doctrine was widely published; but made little impression on pathology during the life of its author. Baglivi was several years younger than Hoffman, but died in 1706, at the early age of thirty-eight, leaving his name inseparably connected with a theory which is destined never to perish.

Enlightened by the original inquiries of the Roman professor, Hoffmann embraced his fundamental principles, and founded upon them a system peculiarly his own. He not only contends that diseases commence in the solids, but he explains the nature of their morbid conditions. He supposes the moving fibres to possess, in health, a certain degree of tone or action, and that deviations from this state constitute disease. If, from any circumstance, the action is morbidly increased, a *spasm* of the fibres is the consequence, and, if the action be diminished, a debility is induced which may extend to the point of *atony*. Spasm and atony of the moving fibres, therefore, are, in his system, elementary or primary states of most diseases. In explaining the manner in which these states of the solids are produced, he brings into view the functions of the nervous system; and thus gives to pathology a form essentially different from all preceding hypotheses. But to these new doctrines are added, in his system, much of the humoral pathology, and many speculations purely chemical and mechanical.

Leaving the great school at Halle, and its celebrated professors, we come next to the University of Leyden, at the head of which, in the faculty of medicine, is BOERHAAVE. This illustrious physician is now, at the period under notice, in the sixty-fifth year of his age, and has successively filled the chairs of several branches of medicine. He is distinguished as a chemist, botanist, physiologist, and pathologist.

As a pathologist, Boerhaave is an eclectic. In forming his system, he selects what he considers the most valuable from all the preceding systems, instead of adopting any one of them. Some of the materials which enter into his system, he derives from the the doctrines of the Galenists, some from the hypothesis of the mechanicians, and some from that of the chemists. In the introduction to his Institutes he says, "at present physic may be learned without adhering to any particular sect, by rejecting every thing that is offered without demonstration, and by collecting and retaining what has been offered and approved to be real truth, both by the ancients and moderns."

To convey a general idea of the pathological opinions of Boerhaave, it is necessary first to observe, that he supposes that the solids are composed of elementary or earthy particles which are united together by a glutinous matter, and which, when thus united, form minute or simple fibres. Now, these simple fibres, he imagines, possess certain mechanical properties which are affected in disease. Thus, in some disorders they are too lax, and in others too rigid. This difference forms the basis of a division of their diseases into two great classes, viz. 1st. Those of a weak and lax fibre; and, 2dly, those of a stiff and elastic fibre. Having laid down these principles, he proceeds to treat of the disorders of the vessels and viscera; and as these are composed of simple fibres, he, without particularly considering their functions, divides their diseases into those of laxity and rigidity. This doctrine is specious and intelligible. Van Swieten, the pupil of Boerhaave, observes in relation to it, that "the diseases of the fibres being considered, and consequently of the solid parts of the body, so far as they consist of fibres, it appears to how great a simplicity the diseases which occur in all the solid parts of the body may be reduced." After giving his pathology of the solids, Boerhaave enters upon that of the fluids. He first treats of those morbid alterations of the humours which take place in them spontaneously. These he divides into three kinds, 1st, those of an acid; 2dly, those of a glutinous; and, 3dly, those of an alkaline quality. The principal sources to which he traces these spontaneous changes, are the varieties of food, and certain circumstances of the body into which they are received. Having treated of the diseases of the solids and fluids severally, he next considers the phenomena which result from the union of the pathological conditions before described. The force of the circulation is here brought under examination, and this leads to a division of diseases into 1st, those that arise from an excess of the circulatory motion; and, 2dly, those from its defect. His reasoning upon these opposite forms of disease, is, for the most part, mechanical. Connected with his pathology of the vascular system is his doctrine of obstruction which forms an important part of his system. "An obstruction," he says, "is a stoppage in a canal denying a passage to the liquid, whether vital, sound, or morbid, that ought to pass through it," and among the causes which produce it he enumerates constriction and compression of the vessels, a lentor, viscidity, inspissation, or coagulation of the humours, and an *error loci* of the globules of the blood. Upon these views of the vessels and circulating fluids, he founded his practice of using diluents, attenuants, and deobstruents.

These are the broad outlines of the theory of Boerhaave—a theory so felicitously constructed, so harmonious with the state of the various sciences at the time, and so captivating in its details and illustrations, as to annually draw around its author a multitude of pupils from different and distant countries. The genius, erudition, and auspicious fortunes of Boerhaave, give him a renown which few physicians can ever hope to enjoy. His pupils admire him as a teacher, and the learned deem it an honour to know him; his fame is universal, and every where his character is revered by the great and good.

In the sketch now given of the systems of the three great theorists, Stahl, Hoffmann, and Boerhaave, it will be remarked how slightly they rest upon the only true basis of medical science, experimental physiology, and pathological anatomy. Made up chiefly of assumptions and scholastic reasonings, they afford little evidence of laborious observation, and cautious induction. Still they possess some truths of great value, and which, from their fundamental character, will ever occasion frequent reference to the systems in which they first appeared. But though little attention is given by the systematics in question to the study of morbid anatomy, there are those, contemporary with them, who, laying aside theories and preconceived opinions, pursue it with spirit and success. In this number is the celebrated Morgagni. Indeed, the medical libraries of 1733, are not without works on this subject. Within a little more than half a century, anterior to this time, Bartholini, Bonetus, Valsalva, and Chirac, not to mention others, had gathered from dissections valuable materials for the construction of a just system of pathology. These instances of toil, in a pursuit of all others connected with science the least inviting to most minds, are sufficient to redeem the age from the charge of exclusive indulgence in speculations.

With regard to the modes of practice common at this epoch, there is less diversity than in the prevailing theoretical systems. In fact the therapia of the times is, with all parties, substantially the same. To this remark, however, there is, perhaps, one exception. The Stahlian physicians condemn all active remedies; whilst most other practitioners admit the advantage and frequent necessity of them. The writings of Sydenham, who died in 1689, when Stahl and his rival contemporaries were about commencing their brilliant career, containing many demonstrations of the benefits that result from studying the simple phenomena of disease, and fulfilling the indications they obviously furnish, could not otherwise than influence the practice of all who read them with a view to instruction. Boerhaave speaks of him as the English Hippocrates. Destitute, for the most part, of the subtleties of learning, but rich in facts, and perspicuous in description, the works of Sydenham are, in an eminent degree, practical, and are consulted with a confidence which those of the mere theorist fail to inspire. His treatment of disease is that naturally suggested by a sound judgement acting with competent knowledge; it is, in fact, careful and judicious empiricism, founded on extensive clinical observation. If he is drawn into error by the seductions of theory, he is sure to be reclaimed by the appeals of experience. But the therapeutical improvements of Sydenham are limited to the more common acute diseases. There are many morbid affections, of the nature and seat of which he had not the slightest knowledge; and, for the removal of which, modes of practice are required, that empiricism could never reveal. In the treatment of such cases, he, in common with his contemporaries and immediate successors, resorted to whatever means accident might suggest as probably suited to their relief and cure.

Much of the practice of physicians, in 1733, is of this description; and, in some instances, to a degree that is singularly fanciful and ridiculous. The truth of this remark is shown in their materia medica and officinal preparations. Not content with combining a few medicines that modify the action of one another, and thus more effectually fulfil certain indications of cure, they mingle together a multitude of articles, many of which are altogether inert, or so feeble in quality and inconsiderable in quantity, as to render them trivial in a pharmaceutical compound. The most celebrated instances of this kind are the Mithridatium, or Confectio Damocratis, and the Theriaca Andromachi; the former consisting of forty-five, and the latter of upwards of sixty ingredients. The original formula of these compounds is said to have been found in the cabinet of Mithridates, king of Pontus. It was afterwards reformed by Andromachus, physician to Nero. The Theriaca was held in the highest estimation as a preservative against every species of venom; and, in an age of superstition, when dread of assassination by poison prevailed, it was frequently resorted to, especially by those who moved in the higher circles of society. Though not regarded as possessing the antidotal power ascribed to it at a former period, it is employed by the physicians of the eighteenth century as serviceable in the cure of many diseases.

But more striking illustrations of the therapeutical notions of the day are presented in the catalogue and classification of medicinal agents. Thus, among the *detergents*, are enumerated snails, vipers, white dog's dung, earth-worms, and fox-lungs. Among *absorbents*, are rubies, emeralds, and goat's blood. Among *diurectics*, are hog's lice and hog's dung. Among *diaphoretics*, are unicorn's horn, and bone of a stag's heart. Among the *hysteric remedies*, are elk's hoof, dung of the goose and peacock, and man's skull. Among *ripeners* and *drawers*, are fat of a dog and fat of a man. Among *repellents*, are a dead man's hand, and the royal touch. Numerous other examples might be cited, equally remarkable and disgusting.*

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* Huxham, who had risen to eminence in 1733, and whose works possess the practical character and general merit of those of Sydenham, strongly inveighs against the polypharmacy of his contemporaries. "When a physician," he says, "knows whether stimulants or anodynes, relaxants or astringents, attenuants or incrassants, are indicated, he can be at no great loss how to serve himself of proper drugs out of the vast materia medica which we at present abound with. He should select a few of the most effectual for his use, of each sort, and stick to them, and not run into the immense *farrago* which some are so fond of. By so doing, he will soon be acquainted with their virtues and effects, and readily distinguish between the symptoms of the disease, and those caused by the medicines; which is a thing many times of no small importance. I have seen in private practice, and some public writings, such a jumble of things thrown together in one prescription, that it would have puzzled *Apollo* himself to know what it was designed for; not but that there are frequently such complications (and contra-indications too sometimes) in diseases, as makes some degree of combination and contrast in a medicine necessary."—*Essay on Fevers, &c.—Preface.*

But to the credit of the physicians of this period it must be said, that they have no faith in the catholicons which the alchymists professed to have discovered, by which life could be extended beyond its natural limits. Of these life-preserving expedients, the most remarkable was the Tincture of Artephius, consisting of human spirits, extracted from a healthy young man, which taken in small doses, from time to time, would protract life beyond a thousand years. Boerhaave, in speaking of this tincture, but without any faith in its alleged power, says, nevertheless, that "it is certain that the strength of a healthy body may, in some measure, be communicated to one that is weak or diseased, since girls lying with old women waste away, whereas the old women improve and have better health and spirits."

Such is a circumspective review of the state of the world, and particularly of medicine, in 1733. And now, bearing in mind what has been noticed, let us return to our own time. And here, how wonderful is the change! In whatever direction we turn, the scene presents a new aspect; its limits are extended; with a few exceptions, ancient structures have disappeared, or been rebuilt from their foundations, enlarged, and embellished; objects, new, and in great variety, attract from every quarter; and, though impenetrable obscurities bound the view, every thing is disposed in a light that renders the contrast striking and impressive. In accomplishing these changes the human mind, during the last one hundred years, has been in constant and vigorous action. In some countries governments have been overthrown, and civil institutions reformed; in others, the ties of allegiance have been sundered, and free and independent states erected. Inquirers after truth have ceased to venerate speculative authorities, and broken down the idols of the schools. Besides transforming the political condition of nations, and producing numerous discoveries in science, and inventions in art, the revolution of a century has created new objects of ambition, and given new impulses to human enterprise. The particulars, in a survey so extensive, are too numerous to be adverted to at this time. In noticing some of them, we shall select such as are most interesting.

In no branch of knowledge have the changes been more important and radical than in that of medicine. What now remains of the phlogistic doctrine of Stahl, and his psychological pathology, or of the hypothesis of Hoffmann, and the splendid system of Boerhaave? Resting on, comparatively, a small number of acknowledged facts, their theories now appear like fictions of the imagination founded on a few realities. The age, however, in which their doctrines were received, will ever be regarded with interest. It was the point of time at which speculative medicine reached its height, and began to decline, and at which inductive inquiry commenced a course of rigorous observation, and careful inference.

The chemistry of the present time bears few of the characters of that of 1733. Instead of the confusion of phenomena, and mystical postulates of that day, we have now analyses, generalizations, and formulæ, that give to every part of the science an exactness almost mathematical. Moreover, in description and detail, ambiguity is avoided and precision obtained, by a nomenclature at once beautiful and expressive. Modern chemistry might not unaptly be said to have had its origin at the epoch on which our attention has been turned, since in 1733 was born one of its earliest and most successful cultivators, namely, Dr. Priestley. To the discoveries of this eminent man, and to those of Scheele, Lavoisier, Cavendish, Black, Rutherford, Davy, Berzelius, Dalton, Vauquelin, Bertholet, Gay Lussac, Magendie, Pelletier, and a few others, the science is indebted for the materials that, at present, form its substantial ground-work. Through the powerful agency of the electrical principle, first recognised by Franklin, and brought under control by him, Galvani and Volta, many of the more refractory compounds have yielded up their elements, and disclosed their hitherto recondite properties and relations.

In the departments of anatomy and physiology also, the improvements are numerous and important. Besides perfecting the descriptive anatomy of Cheselden, Winslow, Heister, and their contemporaries, the human structure has been demonstrated in several new points of view. The *anatomy of relation*, or topographical anatomy, forms now an essential part of a surgical education. It exhibits the organs and tissues of the body as they are connected and relatively disposed to one another, in particular regions of the body. Though at every period in the history of operative surgery some attention must have been given to this mode of studying the human frame, it is chiefly within the last one hundred years, and particularly of late, that it has received the impress of a distinct department of anatomy. Among those to whom surgical anatomy owes its elevation, are found the distinguished names of Desault, Boyer, Roux, Colles, Burns, Hey, Gimbernat, Scarpa, Cooper, and Velpeau.

Another mode, equally modern, of examining the structure of the human body is that known by the title of *General Anatomy*. Under this head, all the elementary textures of the system are investigated and generalized; those being arranged together which are similar in organization and analogous in function. Thus collected and classified, their common characters are examined, and their specific peculiarities, arising from their diversity of situation and connection, particularly determined. This division of anatomy, in its application to physiology and pathology, is of the first importance. It leads to the study of the uses of every tissue of the body separately, and consequently of the part each tissue performs, when acting with others, in producing the various functions of organic life. It displays, too, the structures which are the immediate seats of disease, and exhibits the barriers which, in certain affections, limit the extension of morbid action. The advantages of this mode of unravelling the human body are experienced in every inquiry concerning the nature of diseases. The origin of general anatomy cannot, perhaps, be dated earlier than the time of Bordeu, whose researches on the cellular tissue, were published in 1767. Subsequently, the inquiries of Dr. Carmichael Smyth contributed to draw attention to the subject. But is it to Bichat the world has decreed perpetual honour for his lucid exposition of the organization, properties, analogies, and relations of the various elementary tissues that make up the body. Led to the study of the organic textures by the striking distinctions, pointed out by Pinel, between the mucous and serous membranes, his happy genius accomplished a work that, in its results, established a new era in the history of medicine. Whatever modifications general anatomy has since received from the labours of Meckel, Gordon, Mascagni, Meyer, Beclard, and others, and how considerable soever, the changes it may hereafter undergo, it must ever retain the characteristic features given it by the creative hand of Bichat.

But there is yet another branch of anatomy which at present holds a high rank among liberal studies, and of which neither Cheselden nor his contemporaries of 1733, had scarcely any correct knowledge, namely, philosophical anatomy; a department which elucidates the laws that governs the formation of the organs, the causes and varieties of abnormal structure, the operations of moral and physical influences on the human constitution, and the comparative organism of man and the inferior animals.

But though the modern improvements in anatomy are many and important, they are less so than those in physiology. Here, indeed, almost every thing is new. Of the physiological systems of 1733, scarce a vestige remains. It was said, by the celebrated Dr. William Hunter, who died in 1783, that "there never was a man more followed and admired than Dr. Boerhaave. I remember the veneration in which he was held. And now, in the space of forty years his physiology is — it shocks me to think in what a light it appears." The physiological discoveries since the time of Dr. Hunter, far exceed, in number and value, those which had been made within the period he mentions; and consequently, the Boerhaavian system is, at present, deeply overlaid by accumulated truth. The improvements in physiology are too numerous to be even noticed on this occasion. We can but allude to those relating to the functions of the digestive and respiratory organs, and the vascular and nervous systems.

Corresponding with the advances in physiology, are those in pathology. Instead of the hypothesis that diseases are, originally, certain alterations in the condition of the fluids, we have now the doctrine that they are, for the most part, primarily certain affections of the solids. The principles of pathology, therefore, have undergone a fundamental change. We have said that the age of Stahl, Hoffmann, and Boerhaave, will always be regarded with interest. It will be so, for the reason, that a limit was then put to the long and exclusive reign of the humoral pathology, and a commencement made in new modelling the frame of medical philosophy. The first movement in this great revolution, as we have already hinted, was the bold annunciations of Baglivi, and certain theoretical opinions of Hoffmann. The idea, that diseases originated in the moving fibres, being authoritatively promulgated, especially by the last of these distinguished men, soon attracted general attention; and, eventually, was adopted as a primary fact in pathological science. The downfall of humoralism followed of course, leaving no memorials of its former dominion, but the few solitary truths that had given it a precarious support.

The theory of Stahl, though in a high degree fanciful, obviously favoured, in its leading principle, the revolution in question. By contending that the *anima*, or rational soul, governed the physical movements in health and disease, he drew attention, more particularly than had been done, to the common principle of vitality, the phenomena of which are chiefly manifested in the solids. So far, and without any design on his part, he contributed to the overthrow of the humoral pathology. Hoffmann, too, in supporting his great proposition, that certain diseases primarily consist in a spasm or atony of the moving fibres, evidently had no conception of the turn he was giving to the course of medical inquiries; for, excepting the principles embraced in that proposition, his doctrines are humoral and mechanical. It is a fact sufficiently singular to be stated, that Boerhaave, whose theoretical system transcended in popularity every other, furnished nothing original promotive of the advancement of medicine, whilst Stahl and Hoffmann wrought up into their hypotheses, elements, which though crude and unshapen, were destined to explode the errors with which they were connected, and become, under improved forms, the basis on which medicine was afterwards to rest.

The transition from humoralism to solidism being thus commenced, was rapidly carried forward by their immediate successors. Among the abler and more distinguished of these, were Haller and Cullen, both of whom in 1733, were just entering the profession, the former being, at that time, twenty-four and the latter twenty-one years of age. Haller was the pupil of Boerhaave; but abandoned the system of his preceptor, and engaged as early as 1739, in a course of inquiries into the nature and laws of irritability and sensibility. The result of his inquiries were so original and satisfactory, that the humoral theories lost their attractions, and ceased, in a measure, to exert their former authority. At the same time Cullen, being appointed to the chair of medicine in the rising school of Edinburgh, and adopting, with certain alterations and additions, the leading principles of Hoffmann with respect to the spasmodic and atonic affections of the moving fibres, entirely subverted, in a few years, the pathology of the fluids, and established that of the solids. But though solidism is every where received as the true basis of pathology, the medical philosophy of the present day does not exempt the fluids from disease. It regards them as often affected secondarily to the solids, and, perhaps, sometimes primarily. It contemplates the human body as a unit, the organic apparatus elaborating and distributing the fluids, and the fluids influencing and modifying the solids. It views the nervous, vascular, and secretory organs as the parts in which the vital principle is primarily and especially operative in preserving health; and hence it refers the origin of disease to functional derangements occurring in those parts.

Now, if to these changes in chemistry, anatomy, physiology, and the general doctrines of pathology, be added the immense stores of facts accumulated, within a few years, from *post mortem* examinations, demonstrative of the precise seat and anatomical characters of disease, the present state of medicine will appear in forcible contrast with that a century ago. Comparatively, every thing is now settled upon a permanent physiological basis. The history, symptomatology, etiology, and diagnosis of most disorders are, in a high degree, full and precise; and their treatment, aided, in many instances, by new and powerful agents, greatly improved. Moreover, in the progress of medical discovery, many specific diseases have been disarmed of their terrors, while others, for the most part, are banished, or limited in their prevalence.

Surgery has detached itself from its former degraded association, and by many and signal achievements, raised itself to the rank of medicine. The medical character among the well educated, no longer imposes by a grave demeanour, aristocratic habiliments, and show of learning; but is cheerful, frank, undistinguishable in attire from the rest of the world, and intelligible in communication.

There are now no Stahls, or Hoffmanns, or Boerhaaves, whose doctrines give character to the age. No hypothetical systems, deserving of notice, that divide physicians into parties, and challenge their adhesion and support. Medical fame is distributed among a multitude scattered in every enlightened country. Such are the divisions of medical pursuits, that eminence founded on merit, is widely equalized, through the attainment by many to the same degree of excellence in the different departments of study and practice. In no individual are found combined the qualities that distinguish the cultivators of the several branches of medicine. If a few, here and there, rise above others, by reason of superior industry or superior talent, their greater elevation is so inconsiderable as to be scarcely discerned above the line that forms the high but extended level of professional eminence.

Medical knowledge is too widely diffused to allow any medical school, however able its faculty, to exert a controlling influence over the medical world. Compared with its state a century ago, medicine is now a republic; and such it must remain, so long as the *a posteriori* method of research is pursued with zeal, as it has been of late, in various countries. Everywhere practical studies have taken the place of theoretical speculations; instruction is sought in hospitals, dispensaries, almshouses, lazarettos, prisons, and the private chambers of the sick; pestilence is fearlessly encountered, and its phenomena and ravages calmly observed: the dead of all diseases, are carefully and minutely dissected; and though the field of inquiry is yet boundless and inviting, the three kingdoms of nature have been widely explored, their productions analyzed, and many of them applied to the great ends of all medical science, the prevention and cure of diseases, and the physical happiness of mankind. Finally, the knowledge derived from these sources in different countries, is carefully gathered up, and periodically circulated by the press; and thus a regular interchange of medical intelligence is established throughout the earth.

ART. II. *Practical Observations on Chorea Sancti Viti.* By DAVID M. REESE, A.M.,M.D., Professor of the Theory and Practice of Physic and Clinical Medicine, in the Albany Medical College.

THE form of disease, vulgarly known as St. Vitus's dance, is not only more prevalent than formerly, but becoming increasingly frequent, as every practitioner must have observed. And, although often confounded or complicated with epilepsy, hysteria, catalepsy, and some forms of paralysis, yet is most generally susceptible of accurate diagnosis, notwithstanding the dissimilarity and even contrariety of symptoms in different examples. It is to this latter circumstance that we are to ascribe the very defective definitions found in nosological writers, no one of whom has been able to include all the variety of phases it assumes, nor even give us any one symptom which is uniform or pathognomonic.

Dr. Sydenham, Dr. Hamilton, and Dr. John Mason Good, have perhaps, collectively, given us the best description of the disease to be found in the books, yet in many well characterized cases, chorea assumes a form not fitly represented by either of them. Indeed, from the variety of cases which have come under my notice, essentially differing from each other in their symptomatology, I am inclined to the opinion that a true portraiture of this malady, exhibiting signs which are uniformly present is impracticable, because of its anomalous and endless varieties. We must therefore content ourselves with the definitions which are found in the books, premising however, that they only furnish us with the most frequent and prominent features of chorea, and preparing ourselves to discover in practice, innumerable other peculiarities alike surprising and unaccountable.

The first and most general symptom is that of a limping in the gait, occasioned by dragging one foot, usually the left, after the other. This symptom is soon followed by an involuntary motion of one or both arms, afterwards extending to the lower extremities and the muscles of the face and neck, exhibiting in the countenance ludicrous and often hideous grimace, and accompanied with grotesque motions of the head, and even of the entire body. These involuntary contractions of the muscles affected are sometimes periodical, but by no means universally so, for they sometimes continue for months incessantly except during sleep, and in severe cases, they are manifested, to some extent, in sleep itself. In other examples, they only occur on an attempt at volition, when the patient makes an effort to speak or to move, when the control of the muscles by the will appears to be lost; and in such cases, the patient has a temporary respite from all the symptoms by quiescence of mind and body, when this is attainable.

Notwithstanding these and other symptoms, occasionally greatly aggravated, *no pain or uneasiness* is felt by the patient in the general. The exceptions to this rule are rare, and when they do occur, there may be discovered some complication of disease, organic or functional, which may or may not participate in its causation, and is often distinct and unconnected with chorea, this latter being curable while the former remains, and *vice versa.*

Vigorous constitutions, and the torpor of old age, are the only known exemptions from this malady, which attacks the feeble and delicate of either sex, and though most frequent between the ages of eight and sixteen years, yet young children and even infants are occasionally visited, and I have often treated well marked cases in adult years. It is true that girls suffer from it oftener than boys at the approach of puberty, which may depend on their delicate conformation or effeminate habits, or perhaps, their greater liability results from the retention of catamenia, when the uterine organs are either early or late in their developement. This latter hypothesis receives confirmation from the fact that the disease terminates immediately on full menstruation, and has been known to resist all treatment until this period.

In the early stages of this disease, the gesticulations of the patient, and even the distortions of the features, are accompanied with remarkable contentment and good humour, and the absence of pain or other uneasiness, often enables the patient to laugh at his own disability and eccentricities. As the disease advances however, and deglutition, as well as articulation become impeded and often suspended, the face becomes pallid and the general health is overthrown. Now the mind is impaired in its functions, a languor and vacuity of countenance follows, often attended with deep melancholy, and in some cases fatuity and even idiocy comes on, the faculties retrograding to those of infancy.

In many examples the patient is not only unable to walk or stand, but cannot even sit in a chair, by reason of the convulsive jerking of the limbs, so that lying on the bed or the floor is the position sought. In other examples, however, the patient can sit with comparative quiet, but on rising from the chair, or attempting to walk, a rotary motion of the body comes on, by which the patient turns round upon the toes with incredible rapidity like a top; or is obliged to run round swiftly in a circle to keep from falling. I have seen cases in which this *rotary* motion of the arms and legs, one limb at a time, accompanied by a violent shaking of the head, would come on periodically, and could not be restrained by any amount of force, for if the limb in motion was held, the whole body would become convulsed.

In other instances, the patient has an irresistible propensity to dance whenever placed in an erect position, and will keep time to music, which seems to afford great delight, insomuch, that cases are recorded of the malady being cured by instrumental music. Very often, however, this dancing form of chorea is accompanied by violent shaking of the body and limbs without any regularity, and often continuing for hours together, until the system is exhausted and the patient falls.

The several communities of Shakers, whose form of worship consists in dancing, have among them numerous cases of well marked chorea. For though all the members participate in the exercise of shaking and dancing after their manner, and many of them are in perfect health and have remarkable self-possession, yet a medical observer can readily distinguish the individuals who suffer under this disease, by very obvious diagnostics. And it is worthy of remark, that in every Shaker village, the number of cases of genuine chorea are increasing, by reason of sympathy and that propensity to imitation which belongs to human nature, and which has given to this malady a semblance of being contagious. Indeed, numerous instances are on record of this disease being communicated by the force of example, the propensity of imitation, or a species of moral sympathy; as in nunneries, boarding schools, and assemblies of religious fanatics. I have often witnessed similar instances of the propagation of this disease in families, among sisters and brothers, and even extending to the children of the neighbourhood. It is probable that these results have sometimes followed the attempt of one child to imitate the motions of another suffering from chorea, by mockery so often repeated, that the habit is acquired and becomes uncontrollable. It is for this reason that the separation of the patients from other children ought always to be insisted on, and their entire seclusion greatly promotes recovery.

This disease may be strictly idiopathic or symptomatic. It may come on suddenly or gradually, but in either case it may or may not be idiopathic, so that this circumstance singly will not decide this point. Where it occurs consequentially upon intermittent or remittent fevers, as is not unfrequent, it may be safely regarded as symptomatic. But when idiopathic, it may be accompanied or preceded by signs of impaired health, disturbed digestion, constipation, worms and other intestinal irritation. These, however, are often the effects of the disease, and in no sense its cause. Nor is the prevalent pathological opinion, that the seat of morbid action in chorea is in the stomach and bowels, at all fortified by the curative results of purgation. The depletory and counter-irritating effects of cathartics may, in many cases, cure the disease, and yet its seat be remote from the intestinal tube, as is known to be true in many other diseases. The same answer may be given to the argument founded upon the character of the dejections; nor is any error more frequent or mischievous in pathology and therapeutics than that of confounding effects with causes.

The predisposition to chorea is, in most cases, constitutional, and in some instances, it would seem to be hereditary. It is found to exist in persons of nervous temperament, or a morbidly excitable state of the sensorium, and is greatest at those periods of life in which the nervous system is most irritable. In such persons, certain states of the atmosphere would seem to increase the predisposition, and hence its greater prevalence at particular times and places may be accounted for, as recorded by Cullen and the older writers.

Its exciting causes are numerous, but they are most frequently mental emotions, as fright, anger, religious fanaticism, disappointed love, &c., and when produced by physical causes of any kind, they will be found to be those which are peculiarly operative upon the brain and nervous system. Such are puberty anticipated or delayed; inflammation or irritation of the genitals from any cause; suppressed discharges or eruptions; vegetable and mineral poisons, pregnancy, especially occurring in unmarried females after criminal indulgence, and accompanied by remorse of conscience, dread of exposure, and fruitless lamentations. I have known several examples of the latter character.

That intestinal irritation may sometimes be an exciting cause there can be no doubt, especially when long continued, as in cases of tape-worm; but such examples are rare, and not, as set down in the books, frequent or common causes. The irritation from wounds has excited chorea, but never unless they were near the brain, spine, or some important nerve. And when irritation of any other kind, gastric or intestinal, has become a cause, it must have been so long continued as to have seriously affected the sensorium. For as Dr. Macintosh justly observes, "the opinion broached by Dr. Hamilton, that chorea depends on a collection of feculent matter in the bowels, is so decidedly erroneous, that I need not say a word upon the subject." The pathology of this disease has not been accurately ascertained, and perhaps never will be definitively settled, because its rare fatality affords so few opportunities for *post-mortem* inquiries. It has been known to continue with paroxysmal visitations of greater or less violence from youth to adolescence, and even to senility itself, without destroying life.

But there are many powerful reasons other than those which are analogical, which point to the sensorium as the immediate seat of the irritation upon which this disease depends. Such are its arising so often from mental causes, particularly an excited imagination; the effects produced upon the mental faculties, often early in its progress, and almost always in protracted cases, terminating in idiocy and insanity; the almost universal absence of spasmodic action during sleep, as well as the fact that the involuntary muscles are seldom, if at all, involved. It is true that this cerebral irritation may be secondary in many cases, and its primary source may be located in some remote part of the body, possibly, as in the examples of tœnia and other verminose affections, in the intestinal canal; but even in these the disease is not developed until the irritation is manifested in some portion of the sensorium commune.

Various opinions have been broached in relation to the precise tissue morbidly affected in chorea. Some place it in the cerebral hemispheres, where Magendie supposes the *will* resides. Others ascribe the irritation to the cerebellum, the spinal cord, the tubercula quadragemina, and some to the ganglionic nerves, particularly the abdominal plexus. All these hypotheses, however, and the arguments by which they are sustained, go to confirm the cerebral pathology of the disease, which is certainly plausible from the considerations before named.

It is fortunately of little practical importance, to decide definitely in what part of the cerebral tissue the irritation is located, since it would not essentially modify the therapeutic indications. It is most probable, that the essence of the disease consists of a *mobility of the nervous system*, by which the control of the voluntary muscles is lost; although some have supposed that a morbid action of the faculty of volition best explains the phenomena. Either of these opinions, however, will lead to the same result, and attribute the symptoms to an irregular excitement of some portion of the cerebral mass. That such is the case, in most examples, there is scarcely room to doubt.

These observations being premised, we are prepared to inquire into the indications of treatment, and the best means of their fulfilment. And if the pathological view we have taken be correct, the medical management of the disease need not be difficult or complicated. Indeed, this view is necessary to be taken, in order to account for the endless variety of treatment which has proved efficacious in different hands, and to reconcile the strangely conflicting testimony of medical writers on the subject.

Sydenham recommended alternate bleeding and purging in all cases, and this more indiscriminately than he was wont to do in any other disease. He seems to have succeeded in the cases thus treated, possibly because they were characterized by general plethora, or local congestion, which was the source of irritation. Later writers condemn and reprobate this practice, although Dr. Hamilton, under the influence of his hobby, or more properly his mania for purgation, contends for cathartic treatment chiefly, though even he condemns bleeding; while Dr. Cullen, adopting the opposite theory, which ascribes the irritation and mobility of the nervous system to debility, with all similar pathologists use exclusively and indiscriminately stimulant and tonic treatment. Hence, the books abound with the conflicting speculations of these several theorists, and the purgative and the tonic systems are each supported by the rival sects with numerous cases and cures.

Practical men, however, in this, as in other cases, are governed in their plan of treatment by the pathological condition in every given case, irrespective of all nosological system makers. And all such repudiate, the indiscriminate reliance upon any one class of remedies in chorea, but conform the treatment to the varying causes, extent, and seat of the irritation, as well as to the temperament and condition of the patient.

There are rare examples, in which chorea assails plethoric persons, or arises from a congestive condition of some portion of the cerebral or nervous tissue, approaching to local hypertrophy, in which bleeding may be indicated, and purgation premised, with safety and advantage, especially in its forming state. In later periods, however, either of these agencies would be injudicious and disastrous. And it is worthy of remark that, theory apart, Sydenham found it needful to alternate opium with his depletory remedies, and Hamilton while clamoring for the exclusive potency of purgatives, was careful to counteract the debility he produced; and hence most inconsistently accompanied his continued depletion with daily cathartics, by recommending tonic medicines and a strengthening regimen, including a liberal diet, regular exercise, and even the cold bath, which latter he describes as acting, in many cases, like a charm. Indeed, it will be difficult to find, in the multitude of cases reported by all the depleting pathologists who have written upon chorea, a single instance of cure without stimulating, tonic, and antispasmodic treatment being superadded to their evacuating agents; while those who rely solely upon the latter plan, without any form of depletion, are very frequently successful in radical and permanent cures.

But it is alike unphilosophical and absurd to imagine, that the ever-varying forms which this disease assumes, admit of the universal and indiscriminate application of any one remedy or specific; or that every case may be successfully treated by any one uniform plan. The age, sex, temperament, predisposing and exciting causes, period of the disease, local seat of the irritation by which it is kept up, as well as the previous medication to which the patient has been subjected, the state of arterial action, its periodicity, and other modifying circumstances, must all be regarded in selecting the plan of treatment, or the individual remedy which is to be preferred. In view, however, of all these considerations it will be found that, in a very large majority of cases, no depleting treatment is admissible, as proved by the aggravation of symptoms which follow any kind or degree of artificial evacuation. The only exceptions to this rule I have ever seen, are those in which some gastric irritation exists simultaneously with chorea, for the removal of which, a single cathartic, or, what is better, an emetic, has been called for. With this exception, the tonic plan of treatment should be adopted from the beginning, unless contra-indicated by some one of the modifying circumstances before mentioned. If, for example, the sexual developement be delayed, as in young females, leeches to the vulva or anus, a blister to the sacrum, the pediluvium, or an aloetic preparation may be premised, irrespective of the existing chorea, but even then tonics will afterwards be necessary, notwithstanding the relief obtained by the success of such remedies.

But enough has been said to protect the tonic plan contended for from the charge of being empirical, and it will now be in place to notice the claims of individual remedies of this class, which are adapted to the treatment of chorea. This is the more necessary, since there is scarcely a single vegetable or mineral tonic which has not acquired an adventitious reputation at some time or place, if medical writers are to be believed. The disciples of the Cullenian school still rely upon cinchona and its preparations, of which quinine is generally preferred; while most other practitioners employ the preparations of iron or zinc, choosing the various metallic, instead of the vegetable tonics. I have, however, very often seen them all foiled, though diligently employed and a judicious regimen superadded. And still oftener, I have known the disease to recur after a short interval, having only been suspended for a season by these remedial agents. These results of experience have led me successively to test the comparative merits of various other remedies which have been reported as successful, as the rubigo ferri, cuprum ammoniacum, sulphate and flowers of zinc, oxide of bismuth, camphor, electricity, nitrate of silver, &c., and after very considerable opportunities, I have learned to rely upon the tonic powers of *arsenic* in preference to any and all other medicines of this class, and have never known it to fail in effecting a radical and permanent cure. I feel great confidence in recommending it to the profession in all those cases in which the tonic plan is decided upon, either with or without preliminary medication. The arseniate of potash, as existing in the formula of Fowler's solution, is the preferable mode of exhibition, and its dose should be graduated according to the ability of the stomach to receive it without nausea. In the most numerous subjects, varying from seven to sixteen years of age, six or eight drops should be given night and morning, gradually increasing its dose and frequency. Adults may take ten drops increasing to fifteen, and even twenty, three times a day, and in all cases it should be persevered in for a week or more after all the spasmodic symptoms have disappeared. The only unpleasant effects are nausea or vomiting if the dose be too large, and occasionally a tumefaction of the head and face if too long persisted in. On either of these effects being produced the medicine should be discontinued for a few days, and then resumed in a diminished dose.

With these precautions, I have, for a number of years, employed this remedy in over two hundred cases of chorea, without ever having witnessed any of the untoward results upon the constitution, said to follow the exhibition of arsenical preparations. So far from any of the sequelæ, which are apprehended by the alarmists, my patients have, under its use, not only recovered from chorea, but many of them seem to have since acquired vigorous constitutions and improved health. I have used it in infancy, in delicate females during pregnancy, and under circumstances supposed to forbid its employment by many, and I have never once seen cause to regret its exhibition.

But while I thus dwell upon the value of arsenic as a remedial agent in chorea, I have not failed to superadd auxiliary treatment, and hence nutritious diet, active exercise, cordial drinks, and the cold bath, both plunging and showering, have all been usefully employed. And, in the examples, comparatively few, in which counter-irritation has been indicated, I have obtained most favourable results by the aid of rubefacients, blisters, setons, issues, and the eruption of the tartrite of antimony, applied to the spine. But I have never had occasion for active depletion even by purgatives, although when constipation exists in connection with chorea, or where there has been present the suspicion of worms, I have interposed a cathartic or anthelmintic, while, at the same time, persevering in the tonic treatment.

The numerous authorities for the value of arsenic in the treatment of chorea, which may be found among the records of modern practice would seem to render it plausible to suppose that its success does not depend exclusively upon its tonic powers, as these powers exist in other remedies to an equal, if not greater, degree, while, nevertheless, they do not, in this disease, possess equal merit. Hence Dr. Gregory and others maintain that arsenic acts by producing a strong impression upon the nervous system, other than simply a tonic effect, and he refers for illustration to the fact, that intermittents and other paroxysmal diseases, with and without periodicity, are thus arrested. And this view is corroborated from the fact that the nearer arsenic can be given to the expected paroxysm, the more certain is the effect.

How far this explanation may satisfy the curious in such matters I know not, but the potency of arsenic in interrupting those diseases which seem to be kept up by a principle of *habit*, has been long known, and that this is the case in many examples of chorea, has been already stated, and such is also the fact with many other spasmodic diseases, as asthma, whooping-cough, &c., some of which, like chorea, are occasionally propagated by a contagious sympathy, supposed to be a compound of pity and that instinctive proneness to imitation, which pervades all the higher orders of animated nature. In such examples, it seems highly probable that the *modus operandi* of arsenic is to be explained by the strong nervous impression it makes upon the system, which interrupts that chain of actions in the body, which have been long associated with convulsive movements of the limbs. These movements may be, at first, the result of some circumscribed irritation in a portion of the sensorium, but afterwards kept up by the power of habit. Nor is this explanation more mystical or unphilosophical than that given of other alteratives, about which the profession are wont to discourse so learnedly.

In a future paper, I purpose to furnish the readers of this Journal with a faithful description of a number of cases, selected from my note-book, in confirmation of the pathological and therapeutical doctrines of the present, some of which will be found unique and interesting, alike to the student and practitioner.

Art. III. *Practical Cases of Ovarian Disease.* By G. S. Bedford, M.D., Professor of Obstetric Medicine in the Albany Medical College, N.Y.

Case I. On 2d of June, 1837, I was requested to visit Mrs. B. ætat 29 years, from whom I heard the following particulars: She had been married nine months and a-half. Previous to her marriage she had always enjoyed good health, and her "monthly courses" had observed a marked regularity. About six weeks prior to marriage, she *thought* she observed a very slight swelling in the iliac region; it produced no uneasiness, but actuated, no doubt, by a proper feeling of delicacy, Mrs. B. consulted a physician to know whether, under the circumstances, it would be proper for her to marry. She was assured that the swelling would amount to nothing, and therefore, felt no further anxiety in regard to it. Her "courses" never returned after marriage, and the various presumptive and probable symptoms of pregnancy soon manifested themselves. With the exception of frequent indisposition to sleep at night, and torpid bowels, nothing remarkable occurred until about eight and a half months after her marriage. At this period, the pain in her back was at times excessively severe, and the abdominal enlargement had increased so rapidly, that she found it necessary to seek medical advice. A surgeon was accordingly sent for, and, after reflecting on her case for some days, told the husband of Mrs. B., that, if his wife would consent, he would remove the tumour. To this proposition, she, in common with her husband and friends, objected. Another medical gentleman was then requested to meet the first in consultation. Nothing, so far as I could learn, of professional interest, was agreed on by them. The husband, naturally anxious to know the precise condition of his wife, called on these gentlemen and requested them to say whether they considered her pregnant. They declined giving an opinion, and said they would prefer waiting, as a few days would decide the nature of the case. Dissatisfied at not receiving more encouragement than was embodied in the above conversation, the gentlemen were told that their services were no longer required.

This is the purport of what transpired previous to my seeing the case, and the facts are stated as taken down by me at the time from the lips of Mrs. B., in the presence of Dr. Washington.

On visiting the patient, I found her excessively enlarged, and labouring under very acute distress; the integuments on the abdomen appeared ready to burst; she was feverish, and much troubled with constipation; her respiratory and digestive organs suffered greatly from pressure, and her general appearance of emaciation evidenced much internal trouble.

For the last two weeks Mrs. B. had been compelled, such was her distress, to leave her bed frequently during the night and walk the room. After a very rigid investigation, by way of question and answer, as to the history of the case, I was unable to elicit any facts other than those which have already been mentioned. Mrs. B. being then arranged in bed on her back, with the thighs flexed on the pelvis, I made an abdominal examination of the tumour; it was very evident that the enlargement was wanting in uniformity, and it assumed somewhat a diagonal position as regarded the abdomen. There was no pain when the tumour was pressed upon; and, in percussing the abdomen, a very distinct fluctuation was perceptible. It was plain that this was not a case of ascites, for the fluctuation, though tolerably diffused from the great size of the tumour, was certainly circumscribed. And ascites, we know, at least in a great majority of cases, is preceded by such symptoms of disease, as will at once enable the careful practitioner to detect the malady. From the previous history, therefore, of the case, together with the symptoms present, I had no hesitation in concluding that the patient laboured under ovarian dropsy. An examination, *per vaginam*, was next made, and it was discovered that the womb was enlarged. There was nothing remarkable about the cervix uteri — no pain on pressure, and its structure appeared perfectly natural, nor was there the slightest vaginal discharge. The finger being introduced into the rectum, the posterior surface of the womb evinced a decided developement of this viscus, and this latter examination fortified me in opinion as to the probable amount of uterine enlargement. The question now to be decided was an exceedingly important one. Did the enlargement of the womb depend on pregnancy, or was it the result of disease, or might it be owing to the presence of something in its cavity other than a fœtus?

That it was not disease, the perfect absence of pain, and of all the symptoms ordinarily attending a morbid condition of this viscus, seemed clearly to demonstrate. The patient was fully under the impression that she was pregnant, and had, together with her female friends, attributed all her distress to this condition. She, however, had never felt the motion of the fœtus. It will thus be seen, that I had arrived at a portion only of my diagnosis, and the duty devolved on me to endeavour to account for the enlargement of the womb. Accordingly I resorted, as the only means now left, to auscultation. I made repeated attempts, simply with my ear applied to the abdomen, to detect the pulsations of the fœtal heart, or the "*bruit placentaire.*" I did not succeed. On the following day, I requested my friend Dr. Washington to visit the patient with me. She was again examined with great care, and repeated attempts were made, both with the ear and stethoscope, but without success. Under all the circumstances of the case we felt ourselves justified in giving the following opinion, which was stated to the patient and her friends; viz., that Mrs. B. laboured under ovarian dropsy, complicated most probably with early pregnancy. The distension of the abdomen was now so great, and the distress from injurious pressure so marked, that it became my duty to urge on Mrs. B., as a means of temporary relief, the necessity of being tapped. The suggestion was not assented to, and palliatives were directed—keeping the bowels in a relaxed state, and ordering such articles of diet as are most easy of digestion. Morphine procured her comparative rest at night. She continued in this state until 15th of July, when I operated on her in the presence of Dr. Washington, Professor Alban Gold-Smith, Drs. Caldwell and Hibbard. One gallon and a half of amber-coloured fluid, of the consistence of melted calf's foot jelly, were drawn off. She experienced such immediate relief as to elicit the expression that "she felt as if she was in heaven." On the following day, Dr. Washington and myself again had recourse to the stethoscope, and the pulsations of the fœtal heart were distinctly heard. This was most gratifying, so far as it confirmed the diagnosis. It is highly probable that the great size of the tumour had materially interfered with our arriving at this result earlier. On 20th of July, Mrs. B. quickened. From the period of the operation until the following October, Mrs. B. enjoyed comparatively excellent health, her digestion was much improved, and she gained in flesh. On 14th of October, however, it again became necessary to draw off the accumulated fluid. One gallon was taken away; in two days afterwards the distension was much increased, and on 19th of October half a gallon of fluid was drawn off. It is worthy of remark that, in performing this last operation, not more than an ounce of fluid passed through the canula; a probe was introduced to remove the obstruction, but none was found to exist. It was, however, very evident that there was yet a great quantity of fluid in the ovarium, and the distress of the patient obviously indicated the removal of at least a portion of it. The trochar was, therefore, introduced into another part of the tumour, when not more than two ounces of fluid passed away. The instrument was then withdrawn, and, on looking attentively at the ovarium, a pouting was observed at its upper portion, immediately under the last rib. The trochar being introduced at this point, sufficient fluid escaped to make the patient quite comfortable. The cause of the difficulty was owing to the fluid being enclosed in numerous cysts, each distinct in itself; and it seems to me that a useful lesson can be derived from the recollection of this fact. For example, in hydatid dropsy of the ovarium, *post-mortem* examinations reveal to us that the various cysts or compartments vary in size, some containing a gallon or more, whilst others are so small as not to yield, when punctured, an ounce of fluid. Now let us suppose our opinion to be formed as to the existence of ovariam dropsy in any given case, and, in the event of an operation, if, in puncturing one of the small cysts, not more than a large spoonful of liquid escaped, we might at first suppose that we had failed in our diagnosis. The bare mention of the fact will, I apprehend, be sufficient to put practitioners on their guard against the possibility of such an error, involving, as it certainly would, their professional reputation, if indeed it did not compromise the safety of the patient.

After the last tapping, Mrs. B. passed on with more or less distress to the period of her confinement, which took place on the 29th of October. She was in labour only two hours, and was delivered of a still-born, unnatural and sickly-looking infant. The placenta followed almost immediately the expulsion of the fœtus, and the uterus was well contracted. In two hours after this birth of the child, the ovarium commenced enlarging, and, in thirty-six hours after delivery, this poor woman breathed her last, the abdomen being almost ready to burst from the gaseous distension of the intestines. The husband and friends had been fully admonished of the almost certain result of the case, soon after we had first visited the patient.

In the *post-mortem* examination, in which I was kindly assisted by Dr. Caldwell, the uterus was found to be perfectly healthy, the left ovarium was immensely large, and filled with a number of hydatid cysts. The right ovarium preserved its natural character in every respect. The preparation is now in my museum.

Case II.—On the 6th of June, 1838, I was requested by two of my pupils, Messrs. Millet and Steane, to visit Mrs. L. ætat 31 years. Mrs. L. had been married about six months. Her general health seemed much broken, and her constitution had, at no time, been vigorous. She was born in Bath, England, and had for a long time, at different intervals, been under the care of an eminent physician at that place. When I first saw Mrs. L., I found her in an exceedingly debilitated state, in consequence of a large quantity of blood, which had passed during the four days previous from her womb. On questioning her as to her situation, she remarked, that she considered herself about three months pregnant, and had for the thirty-six hours preceding my visit, suffered much occasional pain in the region of the uterus. In placing my hand on the abdomen, I easily recognised the fundus of the womb about two inches above the upper strait of the pelvis; and to the right of the womb there was a tumour about the size of a large double fist, exquisitely painful on pressure. Mrs. L. being asked whether her attention had ever been drawn to the tumour, observed carelessly, "Oh! doctor, that is an old affair." It appears that she had been afflicted with this enlargement for six years, but it did not seem to increase in size, *nor had she ever felt the slightest pain in it until about four months after her marriage.* In making an examination *per vaginam*, I discovered a fleshy body protruding about two inches out of the mouth of the womb; and on introducing my index finger very cautiously between the projecting body and internal surface of the cervix uteri, I succeeded, by very gentle titillation, in bringing on uterine contraction, which, in a few moments, resulted in the expulsion of an anomalous looking mass, measuring seven inches in length, by two in breadth. As soon as this was expelled, the uterus contracted, and the flooding ceased. Arrow root was ordered for Mrs. L., and in the evening the following mixture was given, which procured her a comfortable rest during the night:

℞ Syrup papav.	ʒij
Mucil. acaciæ	℥ij
Sol. sulph. morph.	gutt x

Ft. mixt.

On visiting my patient in the morning, I found her much refreshed by her sleep, and in directing my attention to the tumour, the pain was as acute as on the day previous. There was also slight febrile excitement. One dozen of leeches were ordered to be applied to the tumour, and the bowels were kept properly relaxed by the following medicine:

℞ Infus. sennæ	℥ij
Sulphat. magnesiæ	ʒij
Mannæ	ʒi
Tinct. jalap.	ʒi

Ft. haustus, repet. pro re natâ.

The local bleeding was speedily followed by a sensible diminution in the pain, and the volume of the tumour was evidently lessened. It became necessary in the course of the month to have thirty-six leeches applied, including the first dozen, and this, together with mild aperients and simple diet, removed entirely all sensibility on pressure; and, in two months from the time I first saw her, the tumour was considerably diminished in size. In August, 1839, I accidently met Mrs. L. at Saratoga Springs, where she was occupied in keeping store. She told me she had suffered no inconvenience from the enlargement, and that it appeared gradually to lessen in volume. I have since heard nothing of the progress of her case, though, I feel assured, if any recurrence of her former symptoms had taken place, I should have been advised on the subject.

Mrs. L., on being questioned particularly as to the symptoms which presented themselves at the time the tumour was first observed, stated, that for two or three months previously, she had suffered much from a deep-seated pain in the right iliac region, with a feeling of numbness in the corresponding limb. But was particular in repeating that after the tumour was sufficiently developed to become recognised, it ceased to give her the slightest physical uneasiness.

I should have mentioned, that Mrs. L. menstruated with ordinary regularity, and had no intermission in this function, with the exception of the period she supposed herself to be pregnant.

Case III.—In the month of June, 1837, Dr. A. S. Ball called on me to request that I would see Mrs. J., in consultation with him. This lady had been in declining health for three years; and having received no benefit in her native state, New-Jersey, came to this city at the recommendation of friends, to place herself under the care of Dr. Ball. Mrs. J. was thirty-six years of age, of a scrofulous habit, and much prostrated from the effects of disease. She was the mother of four children, the youngest being at that time three years old. This child, Mrs. J. nursed at the breast for fourteen months. A few weeks after the birth of the child, the patient complained of partial inability to walk; and in the left iliac region, the pain was so severe as to require the constant attendance of her physician. The inguinal glands on both sides were considerably engorged. Leeches and fomentations were ordered, but she was left so debilitated as to disqualify her entirely from attending to her domestic duties, and she was obliged to keep her bed, with occasional intermissions, for nearly six months, all the time nursing her infant. About two months after weaning her child, she began to enlarge in the lower portion of her abdomen, and this gradually increased to such an extent, as to render life a burden to her, and it was in the hope of deriving some benefit from medical counsel in New-York, that she undertook to visit this city, and place herself under the direction of Dr. Ball.

Mrs. J. had not menstruated since the birth of her last child. The preceding is the account given by the patient of her case to Dr. Ball and myself.

At the request of the doctor, I proceeded to examine the patient. She was placed in bed, on her back, the thighs flexed on the pelvis. The abdomen was considerably distended, and the patient, in the recumbent posture, experienced great difficulty in breathing. There was a well marked tumour of immense size, originating, apparently, from the left side of the abdomen, and extending as high up as the last rib, stretching considerably on the right side, in proportion as it ascended. On pressure, the patient did not complain of pain — and in percussing the tumour the fluctuation was very distinct. A small portion of the right iliac region was not at all intruded upon by the tumour, and in examining particularly this part of the abdomen, we again detected fluctuation. Just below the umbilicus there was easily recognised by the hand a lump about the size of a small apple — it was very hard, and quite moveable to a certain extent, and appeared to be pediculated at its attachment. On pressure it was altogether insensible. In the vaginal examination, the os uteri was perfectly natural and free from disease, but the womb itself was somewhat enlarged.

The large tumour on the left side, what was it? We gave it as our opinion that it was dropsy of the left ovarium. In what way could the fluctuation be accounted for in the right iliac region, not at all occupied by the tumour? Might it not be that the ovarian enlargement was complicated with ascites? Such was the opinion we entertained. What was the nature of the small lump below the umbilicus? Might it not be a fibrous tumour attached to the outer portion of the womb? Its hardness, its mobility, its freedom from pain, and its pediculated character, all warranted this conclusion.

Under all the circumstances, what course was to be pursued in reference to this woman's situation? She was excessively emaciated — the whole stamina of her constitution had long since been destroyed — and, anxious as she was to be relieved, I did not feel myself justified in advising any thing but simple palliative medicines. In this view Dr. Ball concurred. I saw nothing more of the patient for several days, when I was called upon by Dr. Ball and the husband, the latter being most urgent that something should be attempted to rescue his wife from her inevitable fate. The danger of an operation in her debilitated condition, and the extensive disorganization which had taken place, were fully set forth, and, on these grounds, we declined doing any thing more than has been stated. However, the husband was frankly told that his wife should have the advantage of additional counsel, and with the consent of Dr. Ball, I invited Dr. Washington and Dr. Alban Gold-Smith to see the case with us. The united opinion was, that the patient could not sustain herself under an operation. In five days from this period she expired.

In the *post-mortem* examination, made in the presence of Drs. Ball and Gunn, the left ovarium was found very much enlarged and filled with hydatid cysts. The womb was six inches in length, and on the outer portion of it there were several small tumours not larger than a marble, completely imbedded in the substance of this viscus. A little to the right of the left superior angle of the womb, was found the attachment of the tumour, which has already been mentioned, as having been felt below the umbilicus. There were about two quarts of serous fluid in the abdominal cavity.

It ought to have been stated that, for a year after the enlargement of the abdomen first commenced, Mrs. J.'s increasing size was supposed to be owing to pregnancy.

Remarks. The above are three out of seven well marked cases of ovarian disease, which I have had an opportunity of seeing within the last few years; they are taken from my note-book precisely as they were recorded at the time, and if they have no other merit, I must at least claim for them fidelity of description. It cannot be denied that disease of the ovary is of far more frequent occurrence than has been generally supposed. And the melancholy consequences which too often ensue from neglecting the malady in its early stage, must be obvious to every practitioner, who reflects for a moment on the extraordinary and various changes in structure, to which this organ, under the influence of morbid action, is liable.

Frequently, the physician will be circumvented by difficulties of the most embarrassing kind, in his attempts to ascertain the existence of ovarian disease. All abdominal enlargements are by no means to be referred to disorganization of the ovaries; and again, the disease of these bodies is not always identical. We have, for example, in one case purulent secretions — in another, large collections of fluid — in a third, steatomatous depositions, extraordinary growths of hair, bone, teeth, &c. &c.: osseous and other heterogeneous formations in the ovaries are not of very rare occurrence.

In Corvisart's Journal de Médecine, vol. v. p. 144, there is an exceedingly interesting case of ovarian disease in a girl thirteen years of age, in which were discovered bones, teeth, hair, fat, &c. In the New-York Medical Repository, vol. xii. p. 365, Dr. Archer of Maryland, communicated an interesting case of inflammation of the ovarium which ended in suppuration, and was followed by the discharge of a worm about eight or nine inches in length, and also by that of a tooth like a wisdom tooth. In the Jour. Gen. de Méd. tom. xvii. p. 462, there is inserted the case of an ovary of an extraordinary size, containing a number of tubercles, in which were found blood, osseous matters, a packet of curled hair, &c. Portal, Morgagni, and the various scientific journals, especially the Archives Generales de Médecine, and Bouillaud's Journal Hebdomadaire, contain numerous instances of the same kind.

The fluid in a diseased ovary differs in consistence, colour, odour, &c., depending on the degree and kind of disorganization which may have taken place. Dr. Hamilton,* the distinguished Professor of Midwifery in the University of Edinburgh, maintains, with some degree of earnestness, that the ovarium, under no circumstances, contains a serous fluid, and, on this assumption, he predicates a facility of distinguishing between the existence of ovarian dropsy and ascites. The learned Professor will find that his distinction will do well enough in theory, but it must, from necessity, yield in practice; for there are numerous instances, in which the fluid contained in an enlarged ovary so closely resembles serum, at least in all its physical qualities, as to render it impossible to distinguish the two. And, again, how often do we observe the fluid drawn off in ascites, to be so modified by morbid influence, as to give it an appearance entirely different from ordinary serum. Besides the difficulty of ascertaining the *character* of the disorganization which may be going on in the ovary, there is often much embarrassment in distinguishing a diseased ovarium from the multitude of morbid enlargements to which the abdomen is, at times, liable. Error on this subject frequently produces the most unhappy consequences. Character and all the dearest social relations have been suddenly destroyed by mistakes into which physicians have heedlessly fallen, in reference to abdominal tumours.

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* Practical Observations on various Subjects relating to Midwifery. By James Hamilton, M. D., F. R. S. E., part 1st, p. 87.

In its early stage, disease of the ovary may be confounded with tubercles of the mesentery, or even of the peritoneum; large collections of indurated fœces in the colon, and schirrus of the pyloric orifice of the stomach, are also said to induce error on this point. When the ovary becomes much enlarged, so as to occupy a considerable portion of the abdominal cavity, it is then frequently mistaken for ascites or pregnancy. Notwithstanding the multitude of diseases which, under certain circumstances, may so closely simulate ovarian enlargement as occasionally to cause error of judgement on the part of the practitioner, yet there is encouragement in the belief that, with due care, and with a mind disposed to enter on the business of investigation *con amore*, truth may be arrived at in almost all instances. Accurate diagnosis is the very foundation of the healing art, and all our efforts in the prosecution of scientific inquiry should be directed to the attainment of this object.

In all cases in which ovarian disease is suspected to exist, it should be our particular care to acquaint ourselves with the history of the symptoms as they first presented themselves. Was there pain in either iliac region, and was there a sensation of numbness experienced in the corresponding extremity? These are the symptoms which usually accompany this malady, but they are not invariable. It sometimes happens that an ovarium grows to the size of a goose-egg, without having given the slightest uneasiness, and the patient is made conscious of it for the first time in consequence of a fall or sudden turning of the body. She then feels more or less pain in one of the sides; it is attributed to the fall, and nothing more is thought of it. The pain, however, continues, and in examining the side a tumour is recognised. The functions of the uterus are not necessarily interrupted by the occurrence of disease in the ovary, menstruation frequently proceeds with its accustomed regularity, and impregnation is sometimes cotemporaneous with the progress of the disease.

In the *prognosis* of ovarian enlargement is involved much uncertainty. Instances are numerous in which the ovarium, after becoming slightly developed, has remained stationary for years without any accompanying trouble. Again, dropsy of the ovarium has been known to continue for more than twenty years, and the patient enjoy comparative health. On the other hand, the disease has run its course in a very short time, producing the most extraordinary disorganization, and resulting in the death of the patient. Its course is sometimes so rapid as to destroy life in a very few months. Thus, we can scarcely, *a priori*, hazard an opinion, without important reservations, as to the probable issue of this disease. I am of opinion that, in many instances, the ovarium may be under the influence of morbid action, which will remain for a long time latent in the system, until excited by some adventitious agency; such, for example, as pregnancy. Hence in case 1st, recorded above, it is not at all improbable that the fatal termination of Mrs. B.'s life was accelerated by her marriage and subsequent pregnancy; for it is reasonable to suppose that the increased circulation throughout the uterine system facilitated very much the rapid effusion into the different cysts, and the accompanying enlargement of the ovary.

But an important question now arises. If ovarian disease exist previously, will impregnation necessarily cause it to prove fatal? We answer assuredly *not* in *all* instances. In case 2d, which I have presented, it will be seen that Mrs. L. had been afflicted with an ovarian enlargement for six years previously to her marriage; she was undoubtedly pregnant three months when I was called to see her, and the substance expelled from her womb was a blighted ovum. Although Mrs. L. distinctly says that she had never *experienced the slightest pain in the ovary until about four months after her marriage*, yet we find the tumour gradually yielding to treatment, and it is possible it may remain for a long time in its reduced state. What would have been the effect on the developement of the ovarium if Mrs. L. had gone to her full time, is a matter altogether of speculation.

The *cause* of ovarian enlargement has engaged a considerable share of attention among writers, and numerous theories have been propounded. On the one hand, we are told, that child-bearing produces the disease; but this will not account for it in all cases; for it occurs in the youthful virgin, as well as in the aged matron. Again, it is said, that scrofula is the fruitful source of this malady. The disease, however, often occurs in women who are entirely free from all scrofulous taint. It is unnecessary to allude further to the various opinions of authors on the subject; for any one, who has examined, with due care, the nature of ovarian enlargement, will be forced to admit that, in many cases, it is entirely out of our power to assign any cause for its origin.

The *treatment* of diseased ovary involves considerations of the highest importance. For a long time, some of the ablest practical writers declared their doubts of all curative means, and were content with recommending simply palliatives. But of late, the attention of the profession has been awakened to the great necessity of doing something to arrest the devastating effects of a malady which, if left alone, will often consign its victim to the grave; and hence we have precious results from the enterprise in which many of our brethren have so generously embarked. To no living author is the profession under greater obligations for the faithful and patient elucidation of this subject, than to Dr. Barlow, who, in his "*Records of Ovarian Tumours*," has embodied more important facts with regard to the correct treatment of the disease, than any other writer with whom we are familiar. Dr. Barlow's views are based on pathology, the only true method from which we can expect to derive rational and well-settled principles in the cure of the various maladies to which our poor machines are liable. Dr. Barlow very appropriately observes, that whoever has seen the mass of disease exhibited by an ovarium when it has become thoroughly disorganized, will readily admit the utter hopelessness of such total and extensive disorganization being remedied by any curative process with which we are familiar; any which our ordinary medicinal agents permit us the means of instituting or promoting. In cases which, in the earlier stages, yield to medical treatment, so far as to exhibit reduction or subsidence of tumour, we can have no demonstrative evidence of what was the kind or degree of organic change, which produced the tumour; but it seems a fair inference, from the simple fact of such subsidence, that the tumour had not attained the utter perversion of all natural structure, of which the advanced disease is almost universally characteristic. And this distinction, though resting on probability alone, is not unimportant; for it suggests, in the first place, that there is a stage of this disease produced by morbid actions alone, and in which these have not yet caused irremediable disorganization; and secondly, it incites and encourages those remediable procedures by which the disorganized process may be arrested in that stage, in which alone there can be any well-founded hope of their proving effectual.

If, then, it be true that there is a stage of the disease, in which a hope may be rationally entertained of restoring the organ to its original condition, so far, at least, as its functions are concerned, assuredly we should not despair, by unremitting effort, of obtaining so desirable a result.

Dr. Barlow's plan of treatment consists mainly in the general and local abstraction of blood, and in the use of counter-irritants —a mode of treatment, which appears to us in accordance with the strict laws of physiological medicine.

Sophia Wilkins was under the charge of Dr. Barlow, and from her first coming under treatment in September, 1828, until the complete removal of the symptoms of ovarian disease, in June, 1832, the patient was bled from the arm 18 times, losing 190 ounces of blood; 386 leeches were applied at 31 different periods; and she was 21 times cupped, 236 ounces of blood being taken. In addition to these measures, she had 12 blisters, and purgatives, and other parts of the antiphlogistic treatment were had recourse to. She has since her recovery been seen repeatedly by Dr. Barlow under slight indisposition, but there has been no renewal of ovarian derangement evinced by either tumour or pain.

The following case, likewise treated by Dr. Barlow, will be read with interest. Mary Ann Scudamore, aged 21, became an out-patient of the Bath United Hospital, on 25th July, 1829. She had at that time acute pains in the abdomen, with confined bowels, having previously suffered from diarrhœa. The kidneys subsequently becoming involved, and the urine suppressed, she was admitted an in-patient, and, after a course of depletory measures, with small doses of calomel and opium, to affect the gums, she recovered, and was discharged "well" on 1st September. The pains, however, returned, and she was re-admitted on the 9th, there being then fullness in both iliac regions. On the 10th, those tumours were prominent, and separated by a depressed line extending from the umbilicus to the pubis. From this time to 17th November, when she was discharged "better," she had occasional diarrhœa, with affections of the head and chest, for which, in addition to the depletory measures which were again had recourse to, appropriate remedies were employed. The gums were again affected with calomel and opium, and tartar emetic frictions used over the abdomen. On 26th December, she again came under treatment, being then affected with cough and dyspnœa in addition to the abdominal symptoms. "The abdomen was more full, the breathing much oppressed, and there was œdema of the lower limbs." She was received into the house on the 6th of January, and suffered much from the abdominal symptoms, with incidental affections both of the head and heart, including several epileptic attacks, for which free depletion, general and local, blisters, calomel, and measures directed to relieve the incidental local affections, were assiduously employed. "On 6th of April, the left hypogastric tumour had become so prominent, that a large caustic issue was established over it. From this time all her maladies subsided, and on the

4th of May, she was discharged much relieved, and made an out-patient." From this time, until 8th September, when she was again admitted, she suffered much from diarrhœa, which, however, abated soon after her coming into the house. A cautious trial was then made with iodine, beginning with small doses, and this was persevered in for about a fortnight; when, in consequence of pains in the head and side, with inordinate action of the heart and hot skin supervening, it was obliged to be laid aside.

By bloodletting, &c., the disturbance was allayed, and she was discharged on 9th of November, the report being "general health much better; tumours remain." On 22d of January, 1831, she was again admitted, requiring diligent and active use of remedies for successive affections of the head, chest, and abdomen. She was bled, cupped, and leeched repeatedly, had blisters several times, and iodine was again tried both externally and internally. "The hypogastric tumours advancing, caustic issues were formed over both, about the middle of April. From this time, the contingent maladies, which had previously abated, continued to decline, and she quitted the hospital on the 20th of May, 'much relieved.'" These issues remained open till the end of July, and were renewed towards the end of August, at her own desire; notwithstanding which, however, and the evident benefit derived from them, she suffered much from the ailment she had previously undergone, with the addition of numbness and loss of power in the lower limbs, and also in one arm. "Under suitable treatment, however, this passed over, and improvement, general and local, ensued; the general health becoming re-established, and the *tumours, at length, sensibly subsiding*. On the 16th of December, she left the hospital, reported as "greatly relieved; tumours considerably reduced; slight diarrhœa alone remaining." From this time to the middle of May, 1833, she suffered much from occasional returns of her former symptoms, for which bleeding was still the remedy which could be most relied on; and, on the 1st of May, a caustic issue was once more formed in the left hypogastrium, in consequence of some evidences of renewed disturbance in the left ovarium. At the close of September, she again appeared affected with diarrhœa and pectoral complaints; but by this time "the ovarian tumours had entirely subsided, and such was her reliance on the amendment experienced in this respect, that, encouraged by the example of her fellow sufferer, Alice Kirkham,[*] she too had become a married woman." "On the 8th of November, 1834, *she was safely delivered of three female children, who were baptized by the names of Faith, Hope, and Charity.* She suckled the whole for the usual period, and both mother and offspring continued afterwards in perfect health, as I had repeated opportunities of witnessing." Dr. Barlow observes, that "in the course of this protracted disease, she was bled 45 times, to the extent of 384 ounces; was cupped 12 times, to 102 ounces; had 408 leeches applied; 16 blisters; and six caustic issues, four of these being applied over the left ovarium, and two over the right."

In extracting the above important case, I am actuated by the hope that it may prove instructive to the general reader, and elicit sufficient attention from practitioners in this country, to cause them, by actual experiment, to test the excellence of the treatment alluded to. One fact is worth a host of theories, and, as Dr. Barlow deals with facts only, his observations are certainly entitled to the calm consideration of his professional brethren. It was with no ordinary pleasure that I perused his excellent paper;[†] for he had demonstrated, by successful practice, views, which I have entertained and promulgated to the gentlemen, who have honoured my lectures with their attendance since 1830. To many of them, now in this city, and likewise to several medical friends, with whom opinions have repeatedly been interchanged with regard to the nature and treatment of ovarian disease, I beg leave to refer for the fact of my having strenuously advocated the uncompromising use of depletion, especially local, and of counter-irritants, for the arrest of ovarian disease in its early stage. To these measures may also be added the important auxiliary of *pressure.* This latter means will often be followed by the happiest effects. As a sort of expositor ot his "*Records,*" I earnestly invite the attention of the profession to a capital essay *on the medicinal efficacy and employment of the Bath waters, &c., by Edward Barlow, M.D.*, Bath, 1822.

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[*] Alice Kirkham had been also afflicted with ovarian disease, and treated by Dr. Barlow with success. She has since married, and become the mother of a healthy child.

[†] See Transactions of the Provincial Medical and Surgical Association, vol. iv. London and Worcester, 1836, 8vo. pp. 77.

Having already trespassed too long on the pages of this Journal, I find I shall not be able to offer any comments on other modes of treatment suggested by authors, and, more particularly, with regard to the employment of the muriate of lime, so confidently recommended by Dr. Hamilton. At another time these and other points shall be fully discussed, such as the particular circumstances authorizing the practitioner to have recourse to paracentesis, &c. &c., and we will especially consider whether, *in any case, the surgeon is justified in using the knife for the purpose of removing the ovary.*

Art. IV. *Observations on Delirium Tremens, (read before the New-York Medical and Surgical Society, Feb. 16th, 1839.)* *By* John L. Vandervoort, M.D.

In the following observations, I design briefly to consider the causes which give rise to the pathological condition of those organs on which mainly depends the peculiar phenomena of Delirium Tremens, and the treatment which I have found best applicable to cure this disease. The frequent occurrence of this malady,—not only among the poor and labouring classes, but also among those who move in the higher spheres of society,—renders it one of no trifling interest, and demands from the physician the most careful study of its nature, and of the means best adapted to its cure and prevention.

By far the most common cause of *delirium tremens* is the abuse of ardent spirits: it seldom arises from the excessive use of fermented liquors or of opium. Its attacks are mostly confined to those who have, for a considerable time, led a debauched life, and who, from some particular cause, have been suddenly arrested in their career of dissipation. The loss of atony in the brain and nervous system, which is thus induced, together with a corresponding degree of nervous irritability, almost invariably brings on an attack of this disease.

Whether it supervenes upon a sudden debauch, or is occasioned by habitual indulgence, followed by abrupt and total abstinence, is a point on which there is some difference of opinion.

Thus Dr. Snowden, — from whose pen emanated the first account of this disease published in this country, — remarks, "that this species of insanity is mostly to be met with in habitual confirmed drunkards, and, in all cases, so far as my experience extends, makes its appearance on the subsidence of the stimulating effects of the liquor." Dr. Coates observes, "that this disease is the result, not of the application, but of the sudden intermission of the use of these articles," meaning narcotic and narcotico-stimulant substances.

On the other hand it is maintained, that "in persons of irritable temperament, and liable to præcordial anxiety, a single excess is sufficient to produce it, but then the disease, though it may be as acute at the outset, is not of the same continuance or fatal tendency, as when preceded by a debilitating course of dissipation." My own experience, which has been derived from a careful observation of the disease, during a period of nine months, whilst resident physician of the New-York Hospital in 1832–3, from cases met with in private practice, and also in that of the New-York Dispensary for several years, has convinced me that, in some instances, though they are not many, the disease may spring up whilst yet the patient is in the midst of his debauch; several such cases have, at different times, been under my care.

How far *opium* may, under certain circumstances, be able to produce this disease, I am not prepared to say; for though I have met with several incorrigible opium eaters, who, for various causes, were, at times, debarred its use, yet I have never met with an instance in which there were any symptoms analogous to those of the disease which we are considering.

Other agents than these now alluded to, have been alleged capable of engendering an attack of this disease — thus Dr. Roots* in some clinical observations on this malady, after admitting the most common cause of it to be an abuse of ardent spirits, says, "but I have seen as severe a case as I ever met with in my life, where there had been no such abuse, nor abuse of opium, but where it resulted in a young female twenty-two years of age, from having been exposed to excessive privation as regarded nutriment, and almost the comfort of clothing, and from great mental depression and anxiety, in having lost several of her relatives within a fortnight."

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* Guy's Hospital Reports.

It is true that causes like those just mentioned will under peculiar circumstances, produce great mental anxiety and suffering, but we do not think that the symptoms which are thus induced bear any very strong resemblance to those of delirium tremens, though they may be alleviated by the treatment which is commonly applicable to that disease.

Of the *pathology* of delirium tremens our knowledge is yet very limited: *post-mortem* examinations have shed but little light upon the obscurity in which this subject is involved. In a few instances there has been observed an increased vascularity of the mucous membrane of the stomach, and a morbid state of the liver which obtains in most hard drinkers. In other cases there has been noticed turgescence of the vessels of the brain and its membranes, with some effusion into the ventricles, but in the majority of cases no particular lesions have been detected.

Very opposite theories in regard to the seat of this disease have been predicated upon each of these autopsic conditions. One of these theories favours the gastric origin of the disorder, and is supported by Dr. Klapp: another locates the disease in the brain and its appendages, and is maintained by Drs. Potter and Armstrong: whilst a third regards it as an irritation of the brain and nervous system, and is advocated by most of the writers of this country.*

In support of his view of the pathology of delirium tremens, Dr. Klapp remarks, "that upon examination we will find the patient to have a foul tongue, together with nausea and vomiting, and that when an emetic is administered, its operation brings away from the stomach the vitiated contents of that viscus of a dark coloured tarry consistence, and that by means of this class of remedies the disease is speedily and almost uniformly cured." This doctrine has met with bitter opposition on the part of those practitioners who, with more of obstinacy than wisdom, reject, as useless, all evacuants, because they do not chime in with their peculiar views: yet, in the treatment of this disease we will find it to be of great importance to attend to the condition of the stomach.

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* Léveillé thinks that it consists in a morbid and special excitement of the brain, independently of arachnitis and gastro-enteritis, which sometimes complicates it.(a)

(a) Mémoires de'l Acad. Roy. de Med. et Chir. tome 1mo.

Whoever has carefully observed cases of this affection must, I think, be convinced, that there almost always exists great derangement of the chylopoietic viscera, and that a similar state is often found in those who are much addicted to a free use of stimulating drinks. This is very evident in the frequent attacks of sick headache, foul stomach, and depraved appetite, to which such persons are liable.

The second theory to which we have alluded, is that of the late Dr. Potter of Baltimore, who conceived the proximate cause of this disease to consist either in a venous congestion of the brain and its membranes, or in an inflammation of the membranes of this organ. Dr. Armstrong, who seems to have favoured this view of the subject, regarded it simply as a state of congestion of the venous system, in which the brain appeared more especially to participate.

If the view of Dr. P. is correct, then delirium tremens is neither more nor less than phrenitis, and, regarding it as such, we are at no loss to account for his sanguinary mode of treatment. But the phrenitis of authors is not characterized by the peculiar symptoms which so strongly and so clearly distinguish this malady; we do not, in general, behold the quivering tongue, nor the trembling hand, nor those singular hallucinations of the mind which are present in delirium tremens. In the former disease there is greater heat and dryness of skin; a quicker and harder pulse; more heat and pain in the head; a dryer tongue; more suffusion of the eyes; more intense fever: but, above all, in the treatment adapted to each, they differ very widely.

A third class of pathologists regard this disease as depending upon an irritation of the brain and nervous system, as manifested in the restlessness of the patient, his irritability, the disturbed state of his mental faculties, his complete insomnolency and delirium. This doctrine is the one which is now more commonly received, and with certain modifications and restrictions it leads to the more rational mode of treatment.

This hasty sketch of the different views of the pathology of delirium tremens, will suffice to show all that is known on this subject. To adopt either of them to the exclusion of the others, would lead to injudicious, if not injurious practice. As in fever the whole system is affected, so in delirium tremens; as in fever, the secretions are depraved, the functions of the brain and nervous system more or less disturbed, the circulation more or less deranged, so in delirium tremens. Thus, which ever view we adopt, we must be guided by all the circumstances of the case, in the proper selection of our remedies.

SYMPTOMS.—When a person is about to have an attack of this disease, he usually evinces, for several days previous to its actual occurrence, some change in his manners; he is more than commonly fretful, and easily irritated by trifling events; his appetite fails him, and he is apt to be troubled with nausea and vomiting. We observe, too, a slight tremor of his hands and of his protruded tongue, and his nights are passed in uneasy slumbers.

When the disease is fairly set in, there is a material aggravation of all these symptoms, accompanied by more or less delirium, which is constant or remittent. His dreams are wild and frightful, and give him much uneasiness: both day and night he gropes about his room in search of imaginary objects, or he pictures their existence upon the walls of his apartment. A thousand phantoms of his active imagination constantly torment him, and give him no rest.

For hours together, if unrestrained, he will wander whithersoever he can go, and seldom manifests the slightest fatigue. At times he is bathed in a profuse clammy sweat, and he not unfrequently discharges from his stomach a copious quantity of bilious matter, which apparently affords him considerable relief.

In several instances I have witnessed the most violent epileptic convulsions, now and then following each other in rapid succession. None of these cases were rendered fatal by this complication.

Patients with this disease have usually a cheerful countenance, and when not violently, or maliciously opposed, are quite manageable. They are exceedingly cunning and sly in their movements, and very adroit in accomplishing a wished-for object.

The *diagnosis* of this disease rarely presents any difficulty;

it is characterized by such well marked symptoms as to make it easily recognisable, and when there is any doubt, the previous history of the case will serve to dissipate it.

TREATMENT.—A good deal of discrepancy of opinion prevails as to the proper method of treating this affection; the different plans which have been devised have each their advocates and supporters. Few, however, at the present day, uphold the use of the lancet.

There is, in most individuals who have been long accustomed to a free indulgence in ardent spirits, and who subsequently suffer an attack of delirium tremens, a strong tendency to sink into that state which marks the collapse stage of typhus fever. This is more particularly observable in those cases which have been protracted either by improper treatment, a total abstraction of all stimuli in a broken down constitution, or a refusal on the part of the patient to take proper nourishment.

Whatever then has the effect greatly to exhaust the energies of the system, will tend to induce this condition, and when once brought on, the most powerful stimulants will usually fail to excite a re-action.

Still, by some, the lancet has been upheld as one of our most potent means of checking this disease; it was so considered by Dr. Potter, and with some exceptions, by Dr. Armstrong.

Sutton, Dupuytren, Rayer, and Léveillé, regard venesection as dangerous in this affection, whilst Dr. Ware mentions 13 cases which were bled from the arm in the course of this disease, only two of which died, both being affected with peripneumony.

In this country, the more prevalent opinion among practitioners is decidedly adverse to the employment of the lancet. My own experience enables me to coincide in this opinion.

By Dr. Klapp, emetics have been much extolled, and apparently on good grounds; his success with this class of remedies is eminently calculated to arrest our attention, however widely we may differ from him as to the extent to which they should be carried.

In a report recently made by him, he says: "of 51 cases, all but one were cured without the use of a grain of opium, or a drop of alcoholic drink of any description—the unsuccessful case died of epilepsy."

Dr. Eberle bears testimony to the frequent usefulness of emetics in the management of this malady, and Dr. S. Brown remarks: "Although it has not been our practice to depend exclusively upon emetics in the treatment of delirium tremens, we can bear testimony to the utility, in some cases, of premising an emetic to the use of opium. And no doubt, this is often an important step in the treatment of this disease."

In most of the cases which have fallen under my care, I have commenced the treatment by giving an antimonial emetic, or a combination of antimony and ipecac, and I have always found the patient benefited by the operation of the medicine. The nausea thus induced had a most calming effect, and if not followed by sleep, it so prepared the system for the administration of opium, that a comparatively small quantity of it sufficed for that purpose. In some cases I prescribed a full dose of calomel and antimony. The joint operation of which seldom failed to be followed by an amelioration of the symptoms, and then by giving nauseating doses of antimony, almost complete control was had over the malady.

The advantage of this mode of treatment consists in its so preparing the system, or reducing it to that state in which the exhibition of opium, if resorted to, is followed by the happiest effects; it also obviates the necessity of having recourse to those heroic doses which some practitioners have advised.

The influence which *opium* has over nervous diseases, renders it an article of great value in the treatment of delirium tremens; in regard to the best mode of administering it, there is much variety of opinion. Drs. Jackson, Coates, and others, relying solely on its efficacy to control this affection, prescribe it at the very onset in large and repeated doses; others prefer small doses at short intervals.

It is observed by Dr. Coates, who attacks this disorder at its very onset with unusually large doses of opium, "that he has never seen, read of, or heard of an instance in which opium was productive of harm." Dr. Eberle does not coincide with this remark, and Dr. Roots,* in his Clinic on this Malady, says, "that in two instances it has occurred to him, and that two others were related to him by an eminent practitioner, that by

* Ut Supra.

commencing with a dose, say one grain of the acetate or muriate of morphia, such an impression has been made on the brain and nervous system, that the patient has never been aroused from it."

Dr. Ware also mentions a case in which death was produced by large doses of opium, the patient falling into a state of coma, from which he could not be roused.

Such unhappy consequences from the use of opium, are fortunately rare, and may always be avoided by commencing with a dose of one, two, or three grains, and repeating the same at the interval of an hour or two, its effects, in the *meantime*, being carefully watched. When the edge of the disease, so to speak, has been blunted, large quantities of opium will seldom be required. Sleep having once been induced, is commonly followed by restoration to health, but to prevent a relapse, an anodyne should be given for several successive evenings.

Another mode of treating this disease, and one which is almost exclusively followed by some practitioners, is to give stimulants liberally, either alone, or in combination with laudanum. True it is, that under such treatment, the disease may be cured, but I think it well calculated to exercise, among the poorer class of patients at least, a most unfavourable influence. The drunkard sees the same hand which so often before raised the poisoned cup to his lip, again employed to convey the same as its antidote. The power of medicine, under such circumstances, he is apt to regard as too impotent to perform what is required of it, and whilst he swallows with his wonted gusto his former enemy, he is now compelled to look upon it as his best friend. In this way his relish for the inebriating draught is ever kept up, and after a brief respite from former ailments, he again falls a victim to his merciless foe.

True, there are cases which imperatively demand the liberal use of stimulants; in broken down constitutions it would hardly be safe suddenly to interrupt the long continued custom of free drinking, for thus the strength would speedily be exhausted, and death would very likely ensue.

So, too, in cases which follow a severe injury, as a fractured limb, stimulants should not be wholly withheld.

ART. V. *A Case of Dislocation of the Patella upon its Axis, with Comments. By* JOHN WATSON, M.D. (Read before the New-York Medical and Surgical Society, September 7th, 1839.)

THE details of the following case may not be uninteresting to the Society. The case itself is of some importance, inasmuch as it establishes a new fact, or to say the least, a controverted point in the surgical pathology of the patella.

Henry Burton, a carman, of rather slender frame, and about thirty-five years of age, was on horseback in a crowd at the Park, August 21st, 1839, waiting to see the public reception of the Hon. Henry Clay. In the confusion of the crowd, another horseman backed his horse against him, and the animal's hip striking against Burton's right leg, injured him so severely that he was unable to say how, or in what direction he received the shock. He was carried immediately to a neighbouring hotel.

I saw him soon after the accident, in connection with Dr. L. C. Ferris, Dr. Stearns of the northern part of the city, and Dr. Thomas F. Cock. The patient was complaining of severe pain; the leg was perfectly straight, but could be flexed about to an angle of 140 without increasing his suffering. The patella appeared to be slightly drawn up, and it was twisted upon its axis, presenting its outer edge, in a prominent hard line, in front of the knee: its inner edge was resting either in the groove between the condyles of the femur, upon which its posterior face should naturally play, or in the small indenture on the anterior face of the femur, immediately above this groove. The anterior surface of the patella was turned inward, its posterior surface outward, and it rested nearly at right angles with its natural position. Its upper and lower attachments were both preserved, and could be distinctly felt; and a sort of band appeared to pass from its under, or, as it now lay, its outer face, inward to the deeper portion of the knee-joint. This band, as I conceived, was caused, either by the tension of the capsular ligament, or by the rupture of its edge, as it passes from the outer side of the patella. The position of the bone was so well marked that no one at all acquainted with the anatomy of the part, could mistake the nature of the accident.

With the leg extended, and the anterior muscles of the thigh forced downwards as much as possible, pressure was made upon the patella with the expectation of forcing down its prominent edge, and pushing the bone directly into its proper position. The effort was followed only by a severe increase of pain; the bone remained permanently fixed. Another attempt was made to cant its posterior edge inward, and to bring its anterior edge outward, without pressing it against the condyles of the femur, by forcing the head of a key against the posterior, now the outer face of the patella, (using this as a fulcrum,) and pressing the prominent edge of the bone towards the outer condyle. This manœuvre gave him no pain; but was as fruitless in its result as the other. At length the knee was forcibly bent, and immediately straightened again; and then, by canting the patella as before, and pushing it slightly downwards and inwards, it sprung, with a sudden snap, into its proper position. The reduction would, doubtless, have been facilitated by flexing the thigh strongly upon the pelvis. This, however, was not attempted, and the manipulation just described, answered every purpose.

As soon as the bone was replaced the pain ceased; and the patient, thinking himself well again, stated that he could now walk as well as ever. A straight splint was applied behind the limb, so as to secure the joint, and the patient was sent home in a carriage, with directions to keep the knee at rest for a few days, and to apply to it an evaporating lotion.

Most authors who have spoken of luxations of the patella, state that this bone is subject only to the outward and the inward lateral displacement. Sir Astley Cooper admits also an upward, and Boyer speaks of both an upward and a downward displacement. But the two former displacements, according to all the writers who have hitherto dwelt upon these accidents, are the only ones that can occur, independent of a rupture, either of the ligament of the patella, or of the common tendon of the extensor muscles of the leg. In a hasty perusal of most of the surgical authorities, as well English as French, I have met with but one instance bearing any relation to the case just related. "I was informed by Mr. Welling, formerly surgeon at Hastings," says Sir Astley Cooper, "that he was called to a case in which the patella was dislocated upon its edge. The nature of the accident was very obvious, as the edge forced up the integuments to a considerable height between the condyles on the fore-part of the joint. Mr. Welling reduced the dislocation, but with considerable difficulty, by pressing the edges of the bone in opposite directions."*

Sir Astley Cooper gives this observation in a distinct paragraph, without remarks upon it; and as if in need of confirmation, he allows it no place in his enumeration of the several luxations of the patella. Nothing of the sort is mentioned in Mr. S. Cooper's Dictionary. Boyer, after speaking of the lateral displacements, states, that independent of these, some surgeons have thought that this bone might be luxated "by turning half-way round upon itself, and resting with its edge in the articular pulley of the femur; but," says he, "it is impossible to conceive how the tendon of the extensor muscles of the limb, and the ligament of the patella, could be twisted in unison with the rotation of the bone upon itself; and it is still less conceivable how these parts could be completely turned round from before backwards, as some pretend to have seen." †

Where the luxation of the patella outward is but partial, the signs of the accident must be more like those of the case I have described, than where the outward luxation is complete. Yet the difference is still too striking to allow this accident to be confounded with a partial luxation outward. "The external displacement," says M. Sanson, "is easily recognised by pain, inability to walk, and deformity of the knee; by the ease with which the inner edge of the articular pulley of the femur, as well as that part of the surface of this pulley which is not covered by the patella, can be felt beneath the integuments; by the prominence upon the external edge of this pulley, formed by the patella, the outer edge of which is *slightly directed forward*, whilst its anterior face is turned *a little inward*, and its posterior face is so situated on the external condyle that the outer portion of it may be easily touched; by the tension and external deviation of the tendon of the muscles on the anterior part of the thigh, and of the inferior ligament of the patella; by the permanent extension of the leg."*

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* Cooper on Dislocations and Fractures, 4to. Lond. 1829, p. 175.

† Boyer, Maladies Chirurgicales, Paris, 1834, tome 4, p. 349.

But in the case which I have described, the leg could be slightly flexed; no part of the pulley, except its elevated borders at the condyles of the femur, could be felt; *the patella was drawn upwards, and twisted nearly at right angles with its proper position, so that its anterior face was directed inwards, and its outer edge was thrown completely forward, forming an uneven and very prominent line beneath the skin in front of the joint.*†

But though the position of the patella in this case was very different from that which it occupies in the subluxation outwards, yet it is easy to see how the latter accident might be resolved into this. For the patella in slipping outward, while passing over the outer edge of the pulley of the femur, must, from the very shape of the bones, have its outer edge tilted forward, and its inner edge, in consequence, thrown a trifle backward. Now, whilst in this position, and before the patella is allowed to reach fairly to the anterior face of the condyle, a sudden contraction of the rectus and vasti muscles must tend to bring the bone back again within the line of their action: so that instead of slipping completely over the condyle, it will either fall back into its natural position; or its inner edge being arrested, and the bone being thus prevented from moving inwards bodily, its outer edge must be drawn forward towards the axis of the limb, and the accident I have described will be thus produced.

Though some authors describe the lateral displacement as one, occasionally, difficult of reduction, yet as a general rule, the bone slips into its place very readily, from the slightest pressure upon it, especially where the knee is extended, and the thigh flexed upon the pelvis; or, as some direct, by attempting to flex the knee, and thus elongate the muscles in front of the thigh. But in the case of Burton, just related, as well as in the case reported by Mr. Welling to Sir Astley Cooper, the patella was firmly fixed, and reduced only after considerable manipulation.

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* Dictionnaire de Méd. et Chirug. Practiques, tome 11me p. 270.

† Since writing these remarks, Dr. Thos. F. Cock has called my attention to an abstract of two cases, published in Johnson's Journal, that, at first view, appear to be of the same nature as the case I have related. But on referring to the Medical Gazette, vol. 2. p. 754, I find that Mr. Mayo has given a woodcut illustrative of the first of these cases, which proves to be precisely what M. Sanson has described as the subluxation outwards. The other case referred to in Johnson's Journal, (July, 1829,) is quoted from Rust's Magazine for 1828, and is said to be similar to Mr. Mayo's. It appears, however, to be more like mine, but not having the original to refer to, I am unable to form a correct opinion of its true nature. Dr. Wolff, who had charge of it, was unable to reduce it. He divided the tendon above the patella, and the ligament below it; but without bringing the bone into place. The patient, finally, died from the disease of the knee joint which followed the operation.

In a case of complete dislocation of the patella outward, which occurred to me, July 25th, 1838, the slightest push of the thumb was sufficient to restore the bone to its proper place. And somewhat contrary to the diagnostic signs usually given as characteristic of this accident, the leg in this instance was slightly but firmly flexed. The case was that of a young lady of about 22 years of age, remarkably fleshy, but of lax fibre. The accident occurred in dancing. In working the joint immediately after reducing the dislocation, it gave a rough and rubbing sound that might have been mistaken for the crepitus of a fractured bone. Some œdema and effusion within the capsule followed the accident. But the application of leeches, rest in an elevated position, evaporating lotions, and finally a roller, were sufficient, in the course of a week or ten days, to restore the joint to its proper condition.

Authors differ as to the frequency of simple dislocations of the patella. By referring to some, we might be led to believe these accidents of very frequent occurrence. Such, I suspect, is not the fact. Although I have heard of a few cases in the practice of my acquaintances, the two which I have now mentioned are all that have fallen immediately under my own observation. Mr. Liston, in his Elements of Surgery, states that he has never met with a single case.

HOSPITAL REPORTS.

Statistics of the Bloomingdale Asylum for the Insane. By JAMES MACDONALD, M.D., Physician to the New-York Hospital, late Resident Physician of the Bloomingdale Asylum. (Read before the New-York Medical and Surgical Society, April, 1838.)

THE condition of the insane, and the establishment of hospitals for their treatment, are now attracting, in various directions, the notice both of legislators and physicians. Some attention, therefore, to the statistics of such public institutions, may not be unprofitable.

I propose to give a series of tables relative to the patients admitted into the Bloomingdale Asylum during a period of years, and to follow them by such remarks as the various subjects may suggest.

The Bloomingdale Asylum is a branch of the New-York Hospital. The latter, which is one of the oldest charities in the country, received its charter when New-York was a colony of Great Britain. The building was not completed when the war which separated the two countries broke out. It was not, therefore, devoted to the purposes for which it was founded, until January 3d, 1791, when it was opened for the reception of patients, and eighteen were admitted.

The earliest account of the admission of *insane* patients into the New-York Hospital, is found in the first number of the Medical Repository, published in July, 1797. It there appears that, in the month of May of that year, two cases of mania were admitted, two were cured, and one died; that, in the month of June following, *seven* cases of mania were admitted, two were cured, and two relieved. So it seems that, at an early period, a portion of the building was set apart for the accommodation of the insane.

The next notice of insane patients in the Hospital, is taken from a table exhibiting the numbers remaining in the house, and those received during the following months of the year 1798:

	Remaining from last month.	Received this month.
April	7	0
May	7	4
June	9	3
July	9	1
August	8	1
September	9	1
October	7	0
November	5	0
December	5	2

As early as 1802 a plan was "in agitation to adapt the Hospital more extensively to the accommodation, management, and cure of lunatics."

From a "Brief Account of the New-York Hospital," published in 1804, we learn that, during the eight years which began with the 31st of January, 1795, and ended with the 31st of December, 1803, the number of patients admitted was 4,922. Of these, 215 were lunatics.

The rapid increase of insane patients, their necessary confinement in a limited space, the evident evils resulting from the imperfect manner in which they were lodged, their proximity to the other wards, and the consequent annoyance of the sick, determined the Governors of the Hospital to erect a distinct building for their use. Application was then made to the State Legislature for assistance, and such an act was passed on the 14th March, 1806, as enabled the Board to lay the corner stone of a new building the ensuing summer. This edifice, called the "Lunatic Asylum," was completed and "opened for the reception of patients, on the 15th July, 1808, when nineteen were removed from the other building, and forty-eight more admitted; making in all sixty-seven."

At this period, Dr. Archibald Bruce was appointed physician to the Asylum, and continued to serve in that capacity until 1817, when Dr. William Handy succeeded him. Dr. John Neilson was elected to fill the vacancy caused by the resignation of Dr. Handy, in 1819, and was made physician to the Bloomingdale Asylum when this institution was opened in 1821. Dr. Neilson continued to visit the Asylum, first as attending, and subsequently as consulting physician, until 1831, when he resigned.

When Mr. Wetmore, the present worthy superintendent, took charge of the Hospital in 1808, the insane patients were confined in the basement of the main building. A few slept up stairs.

The building which is now the marine department of the Hospital, was occupied as a lunatic asylum for a period of thirteen years. But as early as 1815, it was deemed necessary to make still more ample arrangements. The Hospital, which had been built almost literally in the country, was now found, in consequence of the rapid increase of inhabitants, to be in the centre of a bustling population. This being incompatible with the treatment of a class of patients requiring both seclusion and free exercise in the open air, some benevolent individuals among the governors, (and of these the ability, zeal, and quiet, though efficient exertions, of the late Thomas Eddy can never be forgotten,) conceived the plan of purchasing a farm at a convenient distance from the city, and of forming thereon a sort of insane colony. It was at this period that the celebrated investigation before a committee of the British House of Commons, "into the state of madhouses," was going on, and that the almost wonderful success of the Friends' Retreat was promulgated. Mr. Eddy made a communication on the subject to the Board of Governors, and pointed out the advantages that would flow from an enlarged and liberal system of moral treatment, similar to that pursued at the Retreat. Participating in the philanthropic spirit of the founders of that institution, the Governors of the New-York Hospital applied to the State Legislature for pecuniary aid to purchase ground, and construct suitable buildings. The result was an appropriation of ten thousand dollars annually, until the year 1857.

Steps were immediately taken to procure a suitable location, and, for this purpose, a tract of land on the high ground south of Manhattanville, near the seven mile stone, was purchased; a plan for building was adopted, and the corner stone laid on the 17th May, 1818.

The location of the Bloomingdale Asylum is on a fine swell of ground, which, on the south and west, almost imperceptibly declines by a gentle slope to the level of the adjacent country, while on the north and east it terminates more abruptly, in a bold ridge extending across the island, and commanding the pass of the valley below. This situation, though perhaps not apparently so, is, after Fort Washington, the highest point of the island. The geological formation of this, as, indeed, of many other portions of the country, is of a species of granite or gneiss, with a superstratum of clay, forming a complete basin, and preventing the water which falls on it from finding its way into the depths of the earth. This is probably the main cause of the fevers which prevail in the neighbourhood, but it is a cause which the draining, grading, and opening of streets, are daily diminishing.

The beauty of the grounds, and the views from the main building, are almost unequalled. The approach to the Asylum from the southern entrance, by the stranger who associates the most sombre scenes with a lunatic hospital, is highly pleasing. The sudden opening of the view, the extent of the grounds, the various avenues gracefully winding through so large a lawn; the cedar hedges, the fir and other ornamental trees tastefully distributed or grouped, the variety of shrubbery and flowers; in fine, the assemblage of so many objects to please the eye, and relieve the melancholy mind from its sad musings, strike him as one of the most successful and useful instances of landscape gardening.

There is, indeed, no private residence, or public establishment in the vicinity of the city, which for beauty of situation, or exercise of taste in the distribution of grounds, can compare with it. And it is a source of congratulation to all who wish to see useful institutions permanent, that the State Legislature, with the consent of the Common Council of the city, have passed a law, preventing the opening of certain streets near the asylum; thereby preserving inviolate, grounds which have been consecrated to the most benevolent of human objects, the protection and treatment of the insane.

In describing the Bloomingdale Asylum, it must be borne in mind, that it is the parent institution of the country; that it is the first of any note established here, exclusively, for the insane; that it is, in truth, the pioneer in this department of philanthropy; that whatever improvements have since been introduced in the construction of asylums in neighbouring states, the impulse was given by the Governors of the New-York Hospital, and that the plans adopted are all more or less copies of the institution founded by their humanity.

Though the Bloomingdale Asylum, like all other similar edifices in this country within the knowledge of the writer, will not serve as a model for those that are to be built in different parts of the Union; there are many things in it to copy, as well as to avoid. Great advancement has of late years been made in this species of architecture, and it is only by examining, comparing, and combining the various improvements which have been made, that anything like perfection is to be obtained.

The original plan consisted of a centre building, 211 feet in length, and 60 in depth, with two wings in a line, at the distance of 50 feet, to be connected with it by colonnades; each wing being 194 feet in length, and 50 in depth, thus forming an extended front of 699 feet. The main edifice being the only one which, at that time, either the number of patients demanded, or the means of the society warranted the governors in building, is of Jersey free stone, and consists of a centre part 57 feet long, with wings extending, on each side, 77 feet. Its height is three stories above the basement.

The experience of seven years convinced the governors of the necessity of entirely separating noisy from quiet patients, and in the year 1829, a wing was put up at a certain distance from the main building, for the former class of males. A similar building was completed during the summer of 1837, for the corresponding class of females. These wings, which are of brick, are on the north of the main building, at the distance from either extremity, of about 150 feet. They are at right angles with it, and if extended so as to join it, would together form three sides of a hollow square. This method of grouping the buildings, renders the general *surveillance* more easy; but its chief advantages over the original extended plan are, that it is less expensive, and will in time to come, when the avenues are opened, afford greater seclusion to the inmates.

The buildings under consideration, which were constructed with reference chiefly to utility, are without those ornaments that distinguish the orders of architecture. The exterior of the main building presents an appearance of simplicity, beauty, and strength, happily combined. One of the ruling objects of the architect, besides constructing it in a manner simple, neat, and secure, was to avoid giving it the semblance of a place of confinement. In accordance with this view, cast-iron window sashes have been used in place of grates, and the interior has been finished and furnished like a private dwelling. Some of the rooms are equal to any found in the best hotels and boarding-houses, and the long corridors running the length of the wings, are light, airy, and uncommonly beautiful. It is worthy of remark, that the ceilings are higher, and the ventilation better than in most of our public buildings.

The interior of the principal building, though on a scale of grandeur seldom to be met with in similar structures, is deficient in the means of classification. This deficiency has, however, been mainly supplied by isolating the more turbulent in separate wings.

The main building of the Bloomingdale Asylum was completed and opened for patients in the month of June, 1821, when the government of the institution was organized as follows: The governors selected from their board a committee of six, to whom was assigned the charge of the establishment, including its pecuniary affairs and moral management. These, who are called the asylum committee, meet at the institution once a month, and investigate its affairs. A sub-committee from the same, consisting of two persons, meets weekly to examine the house, to receive and discharge patients, and attend to the various matters of detail to which their attention may be directed. An inspecting committee from the other members of the board, also visits the asylum once a month. The same duty is incumbent on the president and vice-president.

On the occasion of first opening the asylum, 52 patients were removed from the hospital in town, but the majority of these (probably nine-tenths,) were incurable, and consequently not materially benefited by the change.

From this period, to the close of the year 1836, 2037 patients were received into the Bloomingdale Asylum. From this number the following tables have been drawn. Some of them, unfortunately owing either to neglect in filling up the register, or inability to procure the necessary information, are not so full as might have been wished. Other tables again only include 10 and 12 years. As they stand, however, the utmost reliance may be placed on their accuracy.

TABLE OF YEARLY ADMISSIONS.

Dates.	Admissions.	Dates.	Admissions.	Dates.	Admissions.	Dates.	Admissions.
1821	124	1825	156	1829	91	1833	138
1822	102	1826	142	1830	134	1834	102
1823	131	1827	134	1831	151	1835	138
1824	121	1828	134	1832	118	1836	121

Though the mean of admissions, during the series of sixteen years, amounts to one hundred and thirty, the difference in the annual admissions varies from ninety-one to a hundred and fifty-six. This variation might be attributed to general causes, as, for instance, the great commercial crisis of 1825, when the greatest number of admissions was recorded, and the prosperous year of 1829, when the very small number of ninety-one was received into the Asylum, but it is probably owing more to circumstances having no connection with the causes of the malady. Thus since 1821, asylums for the insane have been established in different parts of the country, poor-houses, with accommodations for the insane, have been constructed in many of the counties of this State, and such restrictions have been placed upon the admission of patients with delirium tremens as to lessen their annual numbers from forty-three to sixteen, so that the differences may be accounted for, in part—at least, by extraneous causes.

Table of the different forms of Insanity, including 1680 cases admitted from 1824 to 1836 inclusive.

Mania,	770
Monomania,	386
Dementia,	226
Idiocy,	7
Delirium a potu,	291
Total,	1680

Besides the two hundred and ninety-one cases of delirium a potu, the total number of sixteen hundred and eighty includes about one hundred other cases of the different forms of mental disorder induced by the vice of intemperance, making, altogether, three hundred and ninety-one from this cause.

TABLE OF ADMISSIONS ACCORDING TO MONTHS.

	1825	1826	1827	1828	1829	1830	1831	1832	1833	1834	1835	1836	Total of each month.
January,	5	2	9	9	4	8	4	4	6	5	26*	8	90
February,	7	8	3	13	5	7	5	11	10	7	3	8	87
March,	7	11	13	9	6	6	10	12	8	6	10	8	106
April,	19	9	11	6	5	10	13	13	13	10	13	9	131
May,	19	16	15	16	7	17	14	12	8	8	12	12	156
June,	19	12	21	10	12	14	18	13	13	12	14	15	173
July,	14	16	15	16	12	12	11	10	46*	9	9	12	182
August,	12	17	13	16	7	12	28*	6	12	12	9	16	160
September,	17	13	7	10	7	10	19*	10	7	5	10	10	147
October,	8	13	11	13	9	5	5	13	10	9	15	10	121
November,	14	13	11	7	1	15	12	6	9	13	10	4	115
December,	11	11	8	9	16	17	12	9	6	6	7	9	121

In order to arrive at a correct estimate of the numbers admitted each month, it will be necessary to deduct the patients sent from the New-York Alms-house, as they were merely transferred from one hospital, where they had been received some time previously, to another. Thus from January we deduct twenty, from July thirty-one, from August seventeen, from September eight, making the scale of admissions as follows.

January,	70	May,	156	September,	136
February,	87	June,	173	October,	121
March,	106	July,	151	November,	115
April,	131	August,	143	December,	121

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* The unusually large number admitted during these months, may be explained by stating that most of them were transferred from the Insane Hospital for paupers, at Bellevue.

ADMISSIONS ACCORDING TO THE SEASONS OE THE YEAR.

Winter.		Spring.		Summer.		Autumn.	
December,	121	March,	106	June,	173	September,	136
January,	70	April,	131	July,	151	October,	121
February,	87	May,	156	August,	143	November,	115
Total,	278	Total,	393	Total,	467	Total,	372

It appears from the above tables that the three summer months supply the largest, the spring months the next, and the winter months the smallest proportion of patients.

Taking the months singly, the smallest number of admissions is in January, the largest in June. Beginning with January, there is a regular rise in the scale of admissions until the month of June is reached, when there is an uninterrupted descent, month after month, to December.

Comparing the admissions into the Bloomingdale Asylum with those into the Royal Hospital at Charenton, they are so similarly graduated according to months, that we are induced to extract the following numbers from the report of M. Esquirol.

Table of Admissions during 1826–7–8 *into the Royal Hospital at Charenton.*

January,	37	May,	44	September,	47
February,	49	June,	70	October,	49
March,	53	July,	61	November,	35
April,	58	August,	64	December,	52

Although the gradation is not so regular as in the former table it is sufficiently so to prove the existence of certain fixed laws, governing the developement of insanity.

After allowing the difficulty of transporting patients in cold weather, to account, in part, for their diminished admissions into public asylums, there can be no doubt that those diseases of the brain, usually called mental diseases, originate more frequently during summer than winter; that physical causes, particularly such as produce derangement of the digestive and hepatic functions, and of the surface, are more active at the former, than at the latter season. May not the same be said of moral causes, particularly in a community like this, for is it not in the early part of the summer that the minds of mercantile men are most intently occupied in their hazardous pursuits?

Every one who is familiar with the interior of insane hospitals, knows that they contain by far the largest proportion of recent and violent cases, during the hot months.

TABLE OF RECENT CASES ACCORDING TO MONTHS.

	1825	1826	1827	1828	1829	1830	1833	1834	1835	1836	TOTAL.
January, . .	1	2	6	3	2	4	4	2	3	1	28
February, . .	5	6	3	7	2	3	7	3	1	1	42
March, . .	2	5	8	6	3	3	5	1	5	5	43
April, . . .	10	3	9	3	4	7	5	6	8	5	60
May, . . .	10	12	9	12	5	9	2	3	5	5	72
June, . . .	10	8	13	9	7	9	4	8	7	6	81
July, . . .	8	6	7	11	7	10	8	2	5	7	71
August, . .	7	12	10	12	4	7	6	6	4	8	76
September, .	10	7	3	6	6	8	4	3	1	3	51
October, . .	6	7	7	6	8	4	3	2	4	8	55
November, .	7	8	5	3	1	0	6	5	4	0	39
December, .	4	6	4	8	13	0	5	2	5	4	51

This table, which corresponds very nearly with the one before it, is a better indication of the influence of seasons in causing insanity, for all the cases included in the latter, originated immediately before their admission into the asylum.

TABLE OF NATIVITIES OF PATIENTS.

New-York, . . .	617	Virginia, . . .	4
Ireland, ...	139	Maine, ...	3
New-Jersey, . . .	103	N. Carolina, . . .	4
England, . . .	85	Santa Cruz, . . .	3
Connecticut, . . .	75	Canada, . . .	2
Massachusetts, . .	56	Spain, ...	2
Scotland, . . .	28	West Indies, . . .	3
France, ...	20	Holland, . . .	2
Pennsylvania, . .	18	Italy, ...	2
Rhode-Island, . .	13	Switzerland, . . .	2
Germany, . . .	12	District of Columbia, .	2
Vermont, . . .	11	Indiana, . . .	1
N. Hampshire, . .	8	Delaware. . . .	1
Wales, ...	6	Louisiana, . . .	1
New-Brunswick, N. S. .	5	Georgia, . . .	1
Sweden, ...	5	Russia, ...	1
S. Carolina, . . .	4		
Maryland, . . .	4	Total,	1273

TABLE OF PLACES OF RESIDENCE.

New-York,	1069	West Indies,	3
New-Jersey,	78	Ohio,	3
Connecticut,	18	Maine,	2
Massachusetts,	15	Louisiana,	2
Pennsylvania,	14	Rhode-Island,	2
S. Carolina,	5	Mississippi,	1
Canada,	5	Tennessee,	1
N. Carolina,	4	Maryland,	1
Vermont,	3	Illinois,	1
N. Brunswick and N. Scotia,	3	Alabama,	1
Michigan,	3		
Georgia,	3	Total,	1237

TABLE OF THE AGES OF PATIENTS ADMITTED.

	No. of Patients.		No. of Patients.
7 years of age,	1	30 to 40,	315
9,	1	40 to 50,	197
12,	2	50 to 60,	92
13,	1	60 to 70,	30
15 to 20,	39	70 to 80,	11
20 to 30,	414	80 to 90,	2

The above table does not include second admissions or natural idiots. All patients, aged 20, (and there are many of these,) are put down as between 20 and 30.

This table shows a result differing, in some respects, from the calculations of European writers. Of 4409 admissions of lunatics into the different hospitals of France and England, the largest proportion was between the ages of 30 and 40; the next between 20 and 30; the next between 40 and 50; the next between 50 and 60; the next between 10 and 20, and the next between 60 and 70.

Of 1125 patients admitted into the Bloomingdale Asylum, it is here shown, that 414, or nearly 37 per cent., were between the ages of 20 and 30; while, in the European hospitals above quoted, it appears that the largest proportion, or rather more than 32 per cent., were between the ages of 30 and 40; and only 25 per cent. between the ages of 20 and 30.

Though the vice of intemperance may be more common, early in life in this country than in Europe, and may, in part, explain the discrepancy, we are not willing to admit that it is sufficient to account for the whole difference, but believe this is owing, at least in part, to the more early developement of the intellectual and moral faculties, which the comparative infancy of the country, the rapid progress in civilization and the useful arts, the nature of our civil institutions, and the physical influence of the climate necessarily call forth.

Most of the cases which occurred before the age of 15, were connected with organic disease of the brain.

TABLE OF ADMISSIONS OF MARRIED AND SINGLE PERSONS.

Married, ...	600
Single, ...	573
Widows and Widowers, ...	84

It would at first appear that the married is more favourable to the production of insanity than single life; but when we reflect that the larger proportion of persons marry before the age of 30, we are obliged to acknowledge that celibacy has its full share of mental derangement. Our table of married and single patients corresponds, nearly, with that of Esquirol.

	Esquirol.	Bloomingdale.
Married, ...	45½ per ct.	47¾ per ct.
Single, ...	47⅓ . .	45½ . .
Widows and Widowers, .	7 . .	6⅔ . .

But with the difference, that in the one there is 2 per cent. more of the married, and 2 per cent. less of the single. It is well known that there is a much larger proportion of unmarried persons in France than in America.

TABLE OF ADMISSIONS ACCORDING TO SEX.

Date.	Males.	Females
1821	77	47
1822	66	36
1823	83	48
1824	77	44
1825	102	54
1826	97	45
1827	107	27
1828	86	48
1829	66	25
1830	97	37

Date.	Males.	Females.
1831	102	49
1832	82	36
1833	89	49
1834	67	35
1835	75	63
1836	73	48
	1346	691
		2037 Total.

The very great disparity in the proportion of the sexes admitted, may be accounted for by the fact that intemperance, the most prolific cause of insanity, is a vice much more common among men than among women; and by the belief that people are generally much more willing to trust their male than their female relatives to the care of strangers.

TABLE OF THE PROFESSIONS OR OCCUPATIONS OF PATIENTS ADMITTED.

These have been formed from the admissions that took place between the years 1825 and 1836. The occupation, or want of occupation, of 804 was ascertained; and of these but 59 were women: leaving 743 men, concerning whom something definite in this respect was placed on record.

The professions, besides being arranged alphabetically, and according to numbers, beginning with the highest, are thrown into classes, for the purpose of showing, as far as may be without certain data, the effects of commerce, of study, of bodily labour, of condition, &c., on the mind.

It may be added, that the patients here enumerated, were not only received from all parts of our own state, but from other states.

TABLE ARRANGED ALPHABETICALLY.

Actress	1
Apothecaries	7
Auctioneers	4
Bakers	5
Barber	1
Boatman	1
Bookbinders	2
Bookseller	1
Butchers	5
Factory Girls	2
Farmers	106
Farm Labourers	12
Gambler	1
Gardeners	2
Gentlemen	5
Governess	1
Grocers	25
Hatters	5
Pilots	2
Pedlars	3
Physicians	12
Portrait Painter	1
Potters	2
Printers	7
Officers, Army	3
Officers, Navy	3
Officer, Customs	1

Cabinetmakers, Turners	8
Carpenters	25
Carriagemakers and Wheelwrights	6
Cartmen	6
Chemists (pract.)	2
Chair-makers	3
Clergymen	6
Clerks	45
Cook	1
Collector	1
Convicts (State P.)	11
Consul	1
Coppersmith	1
Coopers	2
Curriers, Leather-Dressers	16
Dentist	1
Distillers	2
Dry Goods' Dealers	3
Editor	1
House-Servants:— (Male 1, Fem. 21)	22
Iron Founders and Smiths	18
Labourers	35
Lawyers	20
Light House Keeper	1
Machinists	4
Malsters, Brewers	3
Manufacturers	6
Market Women	2
Masons	11
Merchants, persons engaged in traffic,	89
Milkman	1
Millers	2
Nurses, (females)	2
Painters, Glaziers	8
Papermaker	1
Pawnbroker	1
Planters	2
Sailmakers	2
Sea Captains	16
Seamen	17
Seamstresses	29
Shoemakers, Saddlers	15
Soapmaker	1
Soldier	1
Statuary	1
Students	19
Tailors	19
Tavernkeepers	12
Teachers	10
Tinworkers	2
Tobacconist	1
Upholsterers	4
Watchmakers, Jewellers, Silversmiths	5
Weavers	4
White-lead workers	3
No occupation	54
	804

All the different occupations found on record amount to 82, variously distributed among 804 patients, including 54 who are distinctly put down as having no profession. Of the 82 different occupations, 35 (considerably less than one-half) furnish 663, or nearly five-sixths of all the cases of insanity. If the 54 mentioned as having no occupation be taken from the whole number, then the 35 professions furnish seven-eighths, while the remaining 47 give but one-eighth of all the instances of insanity enumerated above. Taking these as data, does insanity fall proportionably on persons engaged in the various pursuits of life? or do these operate as predisposing or exciting causes?

TABLE OF PROFESSIONS, OCCUPATIONS, AND CONDITION, THAT FURNISH THE LARGEST NUMBER OF INSANE, ARRANGED ACCORDING TO PLURALITY.

Farmers	106
Merchants, Traders	89
Clerks	45
Labourers	35
Seamstresses	29
Sea Captains	16
Curriers, Leather-Dressers,	16
Shoemakers, Saddlers	15
Apothecaries	7
Printers	7
Carriage-Makers Wheelwrights,	6
Cartmen,	6

Carpenters	25	Farm Labourers	12	Clergymen	6
Grocers	25	Physicians	12	Manufacturers	6
House Servants	22	Tavern keepers	12	Bakers	5
Lawyers	20	State P. Convicts	11	Butchers	5
Tailors	19	Masons	11	Gentlemen	5
Students	19	Teachers	10	Hatters	5
Iron Founders, Smiths	18	Cabinetmakers, Turners	8	Watchmakers, Jewellers, Silver-smiths	5
Seamen	17	Painters, Glaziers	8		
				Total,	663

It is evident, from an inspection of these tables, that the classes most subject to insanity, are those which are connected, either directly or indirectly, with commerce, and dependent upon it for a livelihood. This, of course, comprehends persons of a great variety of professions, besides many who are only secondarily affected by the chances and changes of the times.

Of 804 persons whose occupations were ascertained, 242, making about $30\frac{1}{10}$ per cent. were dependent on commerce.

The producing classes, including farmers, mechanics, labourers, &c., and making up the great bulk of inhabitants, furnish 395 out of 804 cases of insanity, or $49\frac{1}{8}$ per cent. Of these the workers of the soil, including 106 farmers, 12 farm labourers, 2 planters, and 2 gardeners, amount to 122, or rising $13\frac{1}{2}$ per cent.; and mechanics to 206, or rather more than 23 per cent. of the whole number of vocations ascertained.

Persons of studious habits, including the learned professions, and amounting to 67, form about eight and one-third per cent. of the whole number, leaving but twelve and one-half per cent. from all the occupations not embraced in the above classes.

To ascertain the influence of certain trades, or the prevalence of insanity in particular classes, it will be necessary to compare the numbers arranged as above, with the numbers belonging to the different trades and classes as found actually existing in the community. In Williams's Register for 1834, is a classification of the citizens of New-York. This, though not including many unmarried persons, and others in humble life, because they do not rent tenements, and of course, entirely excluding the occupations of rural districts, furnishes the only data for comparison that we can find. We have, therefore, taken a few of such, as from their occupations, must necessarily rent houses or offices, or from other circumstances, have a place in the Directory, and compared them with the corresponding professions found in our tables. It is to be regretted that the few and imperfect data do not allow us to procure results in many trades and pursuits, (in the sedentary mechanical occupations, for example,) in which such would be interesting. It will be borne in mind, that the per cent. here obtained is not so much per annum; it only expresses the comparative liability of the different classes to insanity.

2260	Merchants and Traders,	89	in our Table, making nearly	4	per cent.
2106	Grocers, . . .	25	. . . . . .	1⅕	
94	Auctioneers, . .	4	. . . . . .	4¼	
209	Apothecaries & Druggists,	7	. . . upwards of	3½	
142	Booksellers & Stationers,	1	. . . . . about	⅔	
550	Dry goods Dealers, .	3	. . little more than	½	
249	Tavern & Hotel Keepers,	12	. . . . . .	4⅘	
82	Tobacconists, . .	1	. . . . . .	1⅙	
573	Lawyers, . . .	20	. . . . . .	3½	
499	Physicians, ...		. . . . upwards of	2½	
284	Teachers, . .	10	. . . . . .	3½	

Without knowing the actual number of persons engaged in those occupations that expose their followers to the inhalation of deleterious gases, there appears to be a very large proportion of such on our list. Including two practical chemists, eight painters, one manufacturer of soap containing Prussic acid, and three white-lead workers, there are not less than fourteen.

Not supposing that there is any inhalation of poisonous air, the same remark may be made of the number of curriers and tanners, for surely sixteen of this trade must be a very large proportion.

TABLES OF CAUSES.

In arranging the Tables of Causes, the usual division into physical and moral has been adopted.

I. Physical Causes.

Hereditary, ...	155	Suppression of established discharges, ...	5
Cerebral disease connected with apoplexy, palsy, and epilepsy, . . .	55	Acetate of lead in cider, and fumes of white lead, .	5

Bodily disorder,	48
Following parturition,	43
Constitutional,	34
Succeeding fever	31
Functional and structural disease of uterus,	20
Masturbation,	16
Injury of the head,	15
Congenital,	13
Rapid growth, unequal and sudden developement of body occurring at the age of puberty,	13
Metastasis,	9
Cessation of menses,	8
Insolation,	6
Smallpox, Measles, & Scarlatina,	6

Connected with lactation,	4
Succeeding repelled eruptions,	4
Syphilis and mercury,	3
Old age,	2
Spinal disease,	2
Pregnancy,	2
Sedentary life,	2
Excessive use of tobacco,	2
Hygiene pills,	2
Suddenly checked perspiration,	2
Change of climate, habits, &c.	2
Excess in venery,	1
Inhalation of Prussic acid,	1
Total of physical causes,	511

II. Moral Causes.

Pecuniary embarassments, disappointments, and losses,	59
Religious excitement,	40
Domestic trouble,	31
Over exertion and abstraction of mind,	26
Grief for loss of relatives,	23
Unrequited love,	20
Unhappy marriage,	17
Anxiety of mind,	17
Wounded pride and disappointed ambition,	13
Religious anxiety, doubt, and despondency,	12
Remorse,	13
Terror,	9
Avarice,	8
Religious terror,	7
Defective mental and moral education,	6

Sudden reverse of fortune,	3
Sudden prosperity,	3
Indulgence of violent temper,	3
Excessive novel reading,	3
Want of employment,	4
Jealousy,	2
Loss of office,	2
Indulgence in speculation,	2
Political excitement,	2
Anti-masonic excitement,	2
Ungratified desire to return to native land,	1
Excess of joy,	1
Desertion after seduction,	1
Indulgence in theatrical amusements,	1
Total of moral causes,	332
Total physical and moral causes,	843

When we look over our extensive country, and consider its immense progress in civilization, wealth, and luxury; the varied and increasing temptations to embark in the wildest schemes of speculation; the sudden accumulation and loss of fortune; the fluctuations of trade; the interest taken by almost every citizen, in every political and financial movement that agitates the community; the activity of mind every where apparent; the fierce strifes of the predominating passions of ambition and avarice involving so many minor ones, and extending their influence throughout every class of society; we are compelled to believe that we have among us as many active causes of insanity as any country in Christendom.

If the few States which have made returns of their insane, be taken as a standard for the whole, and if European statistics of insanity can be relied on, facts go to show, that the proportion of lunatics to the whole population, is greater in America than in Europe. But we believe, that European statistics of insanity cannot be relied on. The only country in which a regular systematic plan of enumeration has been adopted, is Norway, where the proportion of lunatics and idiots, is *one* to every 551 inhabitants, a proportion considerably greater than exists in this country.

In the other countries of that hemisphere, the sources of information on this subject are partial and imperfect, being generally no other than hospitals, and public and private institutions; so that the large number of lunatics living at home and in private families, is not taken into account.

It yet remains for us to learn, whether insanity is more common in Europe or America, whether the infancy or old age of a nation is most productive of mental disorder. This is, indeed, a singular inquiry, and it is hoped that, in the next* general census, measures will be taken to ascertain the number of lunatics and idiots.

It will also be important to learn how far diversity of climate, the various habits of the people in different sections of the country, and the institution of slavery, affect the mind.

We have no data upon which to form a correct opinion *as* to the prevalence of insanity among the aborigines. If it be possible to extend the census among these, some interesting results may doubtless be procured on various subjects.

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* Since this paper was read, the writer has succeeded, through the exertions of Mr. Curtis, Member of Congress from New-York, in procuring the amendment of the bill for taking the census of the United States, so as to include lunatics and idiots.

On taking a general survey of the above tables, the first thing that arrests the attention is the great majority of physical over moral causes. If, however, we subtract from the former, the large amount of causes entitled hereditary, the excess of physical* causes will be reduced from one hundred and seventy-nine to twenty-four. Still the results of the Bloomingdale tables differ so widely from those of some of the tables of Salpêtrière and Charenton, published by Pinel and Esquirol, that we are induced to enter into an examination of the causes of this difference.

It may be premised that the registry of the causes of insanity was made at Bloomingdale without reference to theory or preconceived opinions; but it must be confessed, with some skepticism as to the preponderance of moral causes set forth in some of the French reports. Who that has followed the physician, in his daily visits through the wards of a French hospital, has not been struck with the large number of cases of purely physical disease, ascribed by the sufferers to moral causes—to "*chagrin?*" Taking the statements of patients and friends then, is it not probable that insanity is often improperly imputed to moral causes? And in large establishments, like those of the Salpêtrière and Bicêtre, where so many patients are admitted, and where so little can be learned of the history of each case, the physician is obliged to rely for "cause" on the vague statements of unprofessional relatives, or the still more vague accounts of entire strangers,—of an officer of the police, for instance, or of some individual who may not have seen the patient till an hour before. Persons not belonging to the medical profession are too apt to impute insanity to causes acting solely on our immaterial nature, and for no other reason than that they conceive there must be an analogy between cause and effect. These, without reflection, give as "cause," any disappointment or excitement, however trivial, or however often it may have occurred in the same individual without leaving the least mental disorder. Relying on such vague statements, physicians too often, it may be supposed, overlook the real or most important cause, which may lie hid in some organ or system, and may have been a long time acting insidiously; and mistake the first effect or symptom of insanity for its cause. Thus it is very common to say, that the insanity of a patient whose mind dwells on religious subjects, has been caused by religion, when, in fact, his unreasonable or incoherent ravings on this topic, are merely the effect of mental disorder. Without denying that erroneous views of religion, particularly in its most sombre and threatening shape—of religion in which the feelings only are enlisted, and the depressing passions elicited, sometimes, and perhaps not unfrequently, cause insanity,—we believe that the majority of cases attributed to this class of causes, are produced by bodily disorder.

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* In the following calculations it may be repeated that intemperance, the most prolific of all causes, has been omitted. As nearly as can be ascertained it has been the cause of nearly one quarter of the cases admitted.

In a country like this, where so much attention is paid, early in life, to moral and religious culture, what can be more natural, when mental disorder arises, either from moral or physical causes, than that the ideas which made the earliest and strongest impression should be most prominent? This mode of mental operation accords with the common observation of the effects of diseases and injuries of the brain.

The alienation of affection from its natural and long-cherished objects, is perhaps the most uniform symptom of insanity; yet no one thinks of imputing insanity, in most cases, to attachment of friends, to the love of a mother for her offspring, or the devotion of a child to his parent. Another cause having disordered the mind, perversion of feeling occurs as a symptom. Thus it is, in many cases, termed religious insanity.

Other forms of insanity, as those connected with the puerperal state, and those depending on disorder of the abdominal viscera, both of which are often characterized by delusions on the subject of religion, and on that of domestic relations, may also be cited as instances in which the cause is overlooked, and the disease ascribed to one of its symptoms.

The results of our tables then, differing as they do from those of Salpêtrière and Charenton, we would mainly ascribe to the better opportunities of inquiry which the comparatively limited number of admissions at Bloomingdale has given us.

It is generally supposed that in this malady there is uniform similarity between cause and effect—that the disease being apparent, the cause may, with certainty or probability, be deduced; or that the cause having occurred, the effect may be predicted. Thus it would be expected that the loss of property, or misfortune, would cause melancholy; and sudden access of fortune, joyousness; but the contrary is, not unfrequently, the fact. Numerous instances in support of this might be cited. One of the most remarkable cases of insanity at present in the Bloomingdale Asylum, is that of a merchant, who, after failure and the loss of all his property, became deranged. He now considers himself, as he always has done since the occurrence of insanity, the richest man in the world; and, as far as belief in the possession of wealth can give him an imaginary importance and make him happy, is one of the most enviable of men.

Like causes then, occurring in different individuals, must not be expected to produce like effects; for these will be modified by peculiarities of mind, temperament, and organization.

In examining the different causes constituting the two classes, we will begin with those denominated physical.

If *hereditary predisposition* be included in this class (and it is evidently the proper place, if it be arranged under either of the general divisions) it stands beyond all comparison the highest on the list: there being no less than one hundred and fifty-five out of eight hundred and forty-three cases attributed to it; making more than eighteen per cent., or between one-fifth and one-sixth of all the causes.

To those who look forward to the progressive improvement of mankind, this is a frightful proportion. As statutes, even if it were possible to enact them, can never prevent the entailment of this worst of human ills, it becomes the duty of physicians to exercise all their professional and personal influence, to prevent intermarriages in families where insanity is known to be hereditary. Instances have come under the writer's observation, in which whole families, consisting of ten and twelve members, have, after arriving at puberty, become deranged, and most of whom married and left children to transmit their malady. A man brought to the Asylum his wife, whom he had kept chained for fifteen years, and by whom he had had, during that period, six children. During a part of the time she was so dangerously violent that her infants were only put to her for the purpose of suckling, and immediately removed.

Intermarriages for successive generations between a few families of originally sound minds, are also known to cause mental infirmity. The large proportion of lunatics among the royal families of Europe is accounted for in this way.

One of the most intelligent members of the Society of Friends in Great Britain, and the author of a highly interesting work on the celebrated York Retreat, informed the writer, that the proportion of lunatics and idiots among his sect in England amounted to one in 200. Considering that there are only 20,000 Friends in England, and that marriages have been confined, for many generations, to this comparatively limited circle, the very great prevalence of insanity among them must be attributed, in a great degree, to this cause.

The next cause in frequency is found to be *cerebral disease*, including cases complicated with epilepsy, apoplexy, and palsy, and numbering no less than 55. If 15 cases, caused by injury of the head, and 6 by insolation, (the effect of which is, in fact, inflammation of the brain,) be added, we have no less than 76, out of the total of 843 causes, or 9 per cent., originating in the encephalon itself.

Under this head is included the "*Paralysie Generale*" of Calmeil, a form of palsy, until recently, unknown either in England or America.

Forty-eight cases have been put down in the register from which the tables are drawn as arising from *bodily disorder*. This division of causes is made up almost entirely of disorder of the functions of digestion and nutrition, of agents acting indirectly upon the brain, through the medium of the nerves of organic life. Insanity arising from disorder of this portion of the nervous system, usually assumes the form of hypochondriasis, monomania, or melancholy, and is often preceded or accompanied by dyspepsia, disease of the liver, chronic diarrhœa, displacement of the arch of the colon, &c.

Forty-three cases followed *parturition*, and assumed the different forms of mania, monomania, melancholy, and dementia. Besides these, two cases occurred during pregnancy, and four during lactation.

Thirty-four cases are arranged under the head of causes denominated *constitutional*. This term has been used to designate those cases of insanity which succeed former attacks without the recurrence of the original cause, or the occurrence of new causes, and which may be said to depend on acquired predisposition. They may be placed in the same category with those connected with hereditary predisposition. Instances of this kind not unfrequently occur, in which, after several successive attacks, the unfortunate subjects, late in life, become confirmed lunatics. In some of these cases, though no hereditary predisposition could be traced, the parents or some of the family were unusually subject to other diseases of the nervous system.

The physical cause next in frequency appears to be *fever*, which, in 31 instances, so affected the brain and nervous system, as to end in insanity.

Functional and organic *disease of the uterus*, chiefly the former, accounts for 20 cases, while eight occurred at the period of the final cessation of the menses, and were evidently connected with this function. If to these be added the 49 cases which happened during pregnancy, parturition, and lactation, we have the very large number of 77 instances of mental derangement out of 511 from physical causes, dependent on the peculiarities of the female system.

The next cause in frequency is *masturbation*, which, as show by the tables, has given risen to 16 cases of insanity; making more than three per cent. of the physical, and little less than two per cent. of moral and physical causes combined.

Of 789, nine cases of insanity admitted into the Salpêtrière in 1811 and 1812, not one case is imputed to this cause. The same may be said of 437 patients admitted into Esquirol's private establishment.

In the "Dictionaire des Sciences Medicales," Esquirol gives a table of 480 causes of mania, eight of which were masturbation; making rather less than two per cent. The same author gives another table of 374 causes of melancholia, six of which are masturbation; forming less than two per cent. Another of Esquirol's tables, drawn from the records of the "Maison Royale de Charenton," gives 23 instances of masturbation in 408 causes; making about five and a half per cent.

The interesting reports of the able physican of the Massachusetts State Lunatic Hospital, shows a still larger proportion.

By these the per cent. of admissions from masturbation varies during several years from five to twenty-one and a half per cent. The difference between all the tables above-named, except Esquirol's last, and the Massachusetts report is so great, that it seems almost impossible to account for it. Does the state of society in rural districts, which it may be supposed send most of the patients to the Massachusetts Hospital, favour this vice? And does the well known libertinism of cities prevent it? There can scarcely be any hesitation in answering these queries in the affirmative. But even the allowing of this does not account for all the discrepancy. Though masturbation may be a much more prolific source of insanity in some districts and states of society than in others, yet we are inclined to think that this vice is often given as the cause, when, in fact, it is only one of the effects of the malady. A man of strong passions, deprived of reason, and confined within the walls of a lunatic asylum, will indulge his propensities in the only way left him; hence patients are often detected in the very act of onanism, and their insanity instantly ascribed to it as the undoubted cause. On the other hand, we can readily conceive instances in which, from delicacy on the part of physicians and friends, and cunning on the part of the patient, this cause may be overlooked. Of its baneful effects, both on mind and body, when indulged, there can be but one opinion; and we have no doubt that the deterioration which takes place in lunatics who have become insane from other causes, is often owing to subsequent indulgence in this vice.

Rapid growth, sudden and unequal developement of the body occurring about the age of puberty, has, according to our tables, been the cause of thirteen cases of insanity. This is a cause which, I believe, has been noticed by neither writer or practitioner. Several young persons, soon after arriving at the age of puberty, having been sent to the Asylum without any assignable cause for their derangement, I was led to inquire into their histories, and found that, for a short time prior to the manifestation of insanity, their growth had been singularly rapid. From the absence of other causes, from the exact coincidence between the occurrence of insanity and the rapidity of growth, from the appearance of disproportion in different parts of the body, and particularly in the relative size of the head and stature, and from the tendency of the disease to terminate in fatuity, I was led to believe that these cases arose from some organic change in the brain, but have not since been able to corroborate the opinion by *post-mortem* examinations, because these patients soon arrived at a certain degree of imbecility not incompatible with health and longevity. Persons becoming insane at this period of life are very apt to fall into the habit of masturbation, to which, though merely the effect, the disease, I am inclined to think, is often improperly ascribed. To this class of causes thus briefly referred to, I hope at some future day to return, and to lay before the society some interesting facts connected therewith.

Thirteen cases only are found to be *congenital.* They were all idiots. Nine cases are attributed to *metastasis*, and six to *insolation.* Ten were connected with *cutaneous affections* and repelled eruptions.

Moral causes.—The most interesting fact resulting from an inspection of the table of moral causes, is the very large proportion of cases arising from the indulgence of *covetousness.* Three cases are put down to sudden reverse of fortune, three to sudden prosperity, two to indulgence and disappointment in speculations, eight to avarice, and 59 to pecuniary losses, embarassments, and disappointments, making altogether 75, out of 332, (all the moral causes;) being 22 per cent., or between one-fourth and one-fifth, arising from inordinate indulgence in the propensity to accumulate.

The next moral cause is connected with *religion.* As above-mentioned, many cases are attributed to this source, or rather to false religious views and practical extravagances, which, in fact, arise from other causes. In constructing the table, care was taken to exclude such causes of insanity as were evidently dependent on other causes; still it is believed cases are included which have been erroneously imputed, by the friends of patients, to religion. Forty cases are put down to religious excitement, seven to religious terror, twelve to religious anxiety and doubts; making in all 59 cases. Though these different terms might be merged into one, it has been thought better to copy them exactly as they were given by friends, and registered in the case-book.

Domestic trouble is the next cause in frequency. It gave rise to 31 cases. To these may be added 17 cases attributed to unhappy marriages, making altogether 48 from domestic difficulties.

Over-exertion of mind and mental abstraction, with bodily inactivity, have been the causes of 26 cases of insanity, or of rather more than one in every 32 from both moral and physical causes. Esquirol, in one of his reports, shows that rather less than one in every 35 cases proceeds from excessive study. Great activity of the intellect, it is believed, rarely produces derangement, unless all the energies of the mind be concentrated upon a single subject with the exclusion of rest and exercise. Hence persons of partial genius, who have originated new theories or inventions, by magnifying their importance, by constantly revolving them in their minds, and excluding all other ideas, not unfrequently end by falling into delusions. How many alchemists, in former times, became monomaniacs, and how many schemers in our own day have begun by planning perpetual motion, and ended their career as madmen ! Johnson, in his Rasselas, gives a beautiful illustration of the effect of mental abstraction, in the old philosopher who shut himself up in a tower for the purpose of observing the phenomena of the clouds and atmosphere, and after long and close attention to the subject, declared he had got entire control of the weather.

All public excitements, and particularly those which arouse the selfish passions and induce terror, beget victims to insanity. The French revolution is perhaps the most remarkable example of an influence of this kind that modern times have given. The various excitements of our own country, though happily on a much more humble and harmless scale, have, as shown by the tables, caused insanity. Within the writer's own experience, the Anti-Masonic excitement, the Jackson excitement, and the Anti-Jackson excitement, the Bank excitement, the Abolition excitement, and the speculating excitement, have each furnished the Asylum with inmates.

Remorse is given as the cause of 13 cases. The same number of patients was sent to the Asylum from the State Prison, and it is believed that the majority of these are included under this head; but upon making further inquiry into the history of these causes, mental has been found in some of them co-existent with moral aberration, so that it is doubtful if punishment, confinement without social intercourse, and remorse had been the cause of insanity, or mental disorder the cause of moral delinquency. The connection between intellectual and moral derangement (if the latter term may be applied to those who have sinned against social order) is a curious subject for investigation, and involves some intricate questions in ethics and medical jurisprudence. Still, the inquiry cannot but serve the cause of humanity. It is the remark of a learned German physician, who probably knows more of the annals of crime than any man living, that one of the results of his examinations into the statistics of Europe and America is, that mental keeps pace with moral disorder.

TABLE OF DISCHARGES, AS RECOVERED, IMPROVED, BY REQUEST, IMPROPER OBJECTS, ELOPED, AND DIED; WITH THE PER CENT. OF RECOVERIES AND DEATHS; AND THE TOTAL NUMBER ADMITTED EACH YEAR, FROM THE OPENING OF THE BLOOMINGDALE ASYLUM IN 1821, TO THE CLOSE OF THE YEAR 1836.

Year.	Admitted.	Recovered.	Improved.	Discharged by request.	Improper objects.	Eloped.	Died.	Per cent. of Recoveries.
1821	124	23	7	9	3	0	2	18½
1822	102	48	22	18	0	1	5	47
1823	131	55	13	35	0	6	5	42
1824	121	48	27	22	0	8	11	39¾
1825	156	71	42	63	0	0	3	45½
1826	142	69	18	42	0	2	11	48½
1827	134	67	26	34	0	4	9	50
1828	134	59	29	28	0	1	13	44
1829	91	49	19	19	0	1	9	53¾
1830	134	56	41	20	0	1	7	41¾
1831	151	76	17	29	4	0	19	50¼
1832	118	44	31	39	0	6	15	37½
1833	138	58	10	15	2	3	10	42
1834	102	51	16	36	0	2	14	50
1835	138	58	11	12	0	3	13	42
1836	121	66	26	16	0	1	14	54½
	2037	898	355	437	9	39	160	

Per cent. of Recoveries from 1821 to 1836 inclusive, ... 44
Per cent. of Recoveries from 1825 to 1836 inclusive, ... 46½

This table presents a succinct view of the admissions and discharges, the proportion of recoveries, &c., for a series of years. Taking all the admissions from year to year, it appears that the ratio of recoveries increased, though not regularly, to the close of 1836. Deducting, however, from the admissions and discharges cases of delirium a potu, which were more numerous in the former than in the latter years of the institution, the late reports show a much more decidedly favourable result. For instance, in the report of 1824, 40, of 121 admissions were cases of delirium a potu — 48 were discharged recovered, 35 being recoveries from delirium a potu, leaving but 13 recovered from other forms of disease; while by the report of 1836 it appears that of sixty-six recoveries, but eighteen were from delirium a potu, leaving forty-eight from other varieties of insanity. During the year 1825 the admissions from delirium a potu were as high as 43, while in 1833–4 they were but 15 each year.

The report for 1836, shows that 57 recent cases were admitted during the year, and that 12 remained in the house at the close of the preceding year, making altogether 69 recent cases under treatment. It also shows that 56 recent cases were discharged recovered, which, added to 12 remaining in the asylum, so far advanced in convalescence that their recovery was almost certain, made 68 recoveries in 69 recent cases, or upwards of 98 per cent.

During the same period 64 old cases were admitted, and 10 discharged recovered, making a per cent. of 15 and two-thirds. Besides the old cases thus dismissed, six remained in the house, either entirely restored, and waiting for their friends at a distance to come for them, or so far improved that their final recovery was no longer doubtful.

Many of those included in the column headed *improved*, were discharged from the Asylum in a state of convalescence, and subsequently recovered. Could it have been practicable to have omitted reporting these until after recovery, which would not have been unfair as they were actually cured at the Asylum, our tables would show a much more favourable result than they now do.

The great number of patients discharged by request is accounted for by the fact, that large numbers were frequently transferred to the New-York and other Alms-houses, as these establishments had room for their insane poor. It happened several times that 20 or 30 were transferred to the City Alms-house at at once. On the other hand, whenever the poor-houses became crowded, large numbers of old cases were returned to Bloomingdale, thereby swelling the list of admissions with incurables.

In order to form a fair estimate of the proportion of deaths, it was necessary to ascertain the average number of patients in the Asylum, throughout each year. This has been done with much accuracy, and the per cent. of deaths deduced by taking the actual number as they appear annually on the printed reports. The results will be given in one of the subsequent tables.

TABLE OF RECOVERIES OF THE DIFFERENT SEXES.

	Males Recovered.	Males Admitted.	Females Recovered.	Females Admitted.
1821	20	77	3	47
1822	38	66	10	36
1823	37	83	18	48
1824	41	77	7	44
1825	57	102	14	54
1826	50	97	19	45
1827	53	107	14	27
1828	39	86	20	48
1829	34	66	15	25
1830	45	97	11	37
1831	58	102	18	49
1832	28	82	16	36
1833	38	89	20	49
1834	38	67	13	35
1835	35	75	23	63
1836	38	73	28	48
	649	1346	249	691

48¼ per cent. recovered. 36 per cent. recovered.

This difference in the curableness of the sexes arises from there being a much larger proportion of cases of delirium tremens and temporary mania, among males than among females — and from the greater unwillingness on the part of friends to place their female than their male relations in public institutions.

TABLE OF RECOVERIES OF OLD AND RECENT CASES.

	Old Admitted.	Old Recovered.	Recent Admitted.	Recent Recovered.
1824	70	4	51	44
1825	67	1	89	70
1826	49	0	93	56
1827	42	2	92	65
1828	42	4	92	55
1829	28	3	63	46
1830	61	0	73	56
1831	67	8	84	68
1832	44	1	74	43
1833	79	2	59	56
1834	59	10	43	41
1835	83	6	55	52
1836	64	10	57	56
	755	51	925	708

The recoveries in old cases are rather less than seven per cent.

The recoveries in recent cases are rather more than 76½ per cent.

This table proves, as clearly as figures can demonstrate, the greater curableness of recent compared with old cases of insanity.

TABLE OF RECOVERIES ACCORDING TO MONTHS.

Owing to the deficiency of the records during the earlier years of the Institution, this table includes only those recoveries which took place after the beginnsng of the year 1825.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1825	4	3	3	6	5	7	6	14	3	10	4	5
1826	3	5	3	3	7	4	9	6	10	9	5	5
1827	5	1	5	6	5	8	7	7	7	5	4	8
1828	3	3	6	2	7	5	5	5	7	6	3	8
1829	3	3	3	2	3	2	8	3	2	3	6	8
1830	5	1	5	3	4	4	3	5	5	6	4	4
1831	3	3	4	3	7	12	3	9	3	7	8	4
1832	1	3	5	5	2	3	7	3	8	3	4	3
1833	3	2	0	7	10	2	2	6	7	8	6	7
1834	3	3	8	2	4	1	1	7	10	6	4	2
1835	1	4	10	5	6	3	4	3	6	9	4	3
1836	2	5	2	4	5	4	6	5	6	7	13	7
	36	36	54	48	65	55	61	73	74	79	65	64

Classing the recoveries according to the four seasons, it results that the

Winter months give 136 recoveries.
Spring " " 167 "
Summer " " 189 "
Autumn " " 218 "

showing a pretty regular progression in recoveries according to season; the spring giving 31 recoveries more than the winter months, the summer 22 more than the spring, and the autumn 29 more than the summer months. By this it appears that the winter months furnish the smallest number of recoveries, while the autumnal mouths furnish the largest, or 82 more than the winter months. The recoveries then which take place during the winter amount to only 19 per cent., while those of the autumn rise to nearly 31 per cent.

How can this great difference be accounted for? *In the first place*, there is the smallest number of patients in the Asylum during the latter part of the autumnal and the whole of the winter months, and the largest during the summer months. *Secondly* — as the patients who recover usually remain in the Asylum from three to five months, the greater proportion of recoveries in the autumn corresponds with the increased number of admissions in the warm season; so, the next largest proportion of recoveries during the summer, corresponds with the numerous admissions in the spring. The spring gives a larger number of recoveries than the winter, because those who get well during the latter season usually remain in the Asylum until spring. *Thirdly* — another reason for the great increase of recoveries during the summer and autumn is, that at those seasons, insanity is a more acute disease, and its causes, are more generally physical and remediable than those occurring at other periods of the year.

Besides considerable influence may be attributed to the relaxing effects of warm weather, and to the increased evaporation from the surface, which takes place during summer.

TABLE OF DEATHS.

Of 160 patients who died in the Asylum, the diseases of 117 only are on register, and are as follows: —

Asthenia,	19
Phthisis,	17
Delirium a potu,	10
Fever,	9
Apoplexy,	9
Epilepsy,	8
Palsy,	8
Inflammation and softening of brain,	5
Inflammation of bowels,	5
Dysentery,	4
Suicide,	4
Diarrhœa,	3
Dropsy,	3
Concussion of brain,	2
Cholera morbus,	2
Cholera spasmodic,	2
Strangulation occurring to paralytics while eating,	2
Abscess of liver,	1
Abscess lumbar,	1
Erysipelas,	1
Inflammation of lungs,	1
Starvation,	1
Total,	117

The term asthenia, has been used to designate that state of exhaustion or loss of vital force, which follows long continued and excessive mental and nervous excitement, and into which the insane often fall. As shown by the above table, more die in this state than by any single disease. But if all the diseases of the brain, (including apoplexy, palsy, epilepsy, inflammation, and softening,) be added together, it will be found that a large number have been destroyed by them, than by the diseases of any other system. They amount to 32 in 117 deaths.

TABLE OF DEATHS ACCORDING TO MONTHS, FROM 1825 TO 1836 INCLUSIVE.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1825	0	0	0	0	1	0	1	0	0	0	1	0
1826	3	1	0	1	0	0	1	1	1	0	2	0
1827	2	1	0	1	2	0	0	1	1	0	0	1
1828	1	1	1	2	0	2	2	1	2	0	2	0
1829	2	1	1	0	0	0	0	0	2	0	1	2
1830	1	0	0	1	0	2	0	0	1	0	1	1
1831	1	2	0	2	0	0	1	1	1	3	3	4
1832	3	1	1	1	0	0	3	3	1	0	1	1
1833	0	1	0	1	0	1	2	3	2	0	0	1
1834	2	2	0	0	1	1	1	1	3	1	2	0
1835	2	1	0	0	2	2	0	0	2	1	0	3
1836	0	1	1	1	0	1	0	2	2	4	2	0
	17	12	4	10	6	9	11	13	18	9	15	13

The deaths, when arranged according to seasons, give the following results:—

Spring,	20	Deaths.
Summer,	33	"
Autumn,	42	"
Winter,	42	"

Showing the lowest degree of mortality in the Spring, and the highest in Winter and Autumn.

TABLE OF AVERAGE NUMBER OF PATIENTS IN THE BLOOMINGDALE ASYLUM, THE NUMBER OF DEATHS, AND THE PER CENT. OF DEATHS.

The fractions here given are not the exact sum—they are only about what the per cent amounts to.

Year.	Average number of patients in the Asylum during each year.	Deaths.	Per cent. of Deaths.	Per cent. reckoned according to the whole number of patients in the Asylum, from the beginning to the end of the year.
1821	74	2	2¾	1¾
1822	86	5	5	3
1823	101	5	5	2¼
1824	116	11	9½	5
1825	119	3	2½	1⅑
1826	88	11	12½	5
1827	90	9	10	4
1828	90	13	14½	6
1829	83	9	10⅞	5
1830	89	7	7⅞	3¼
1831	97	19	19½	8
1832	96	15	15½	7
1833	107	10	9⅓	4½
1834	120	14	11⅔	6¼
1835	136	13	9½	5½
1836	153	14	9⅐	5¼

The striking difference in the proportion of deaths, as exhibited by the above table, is not easily explained. Though comparatively few lunatics fall victims to the diseases that occasionally prevail in the neighbourhood of the Asylum; yet, these diseases undoubtedly influence, very materially, their state of health, and cause them to sink more rapidly under the various organic or latent affections under which they may be labouring. On the other hand, the diseases more particularly referred to here, (intermittent and remittent fevers,) not unfrequently exert a most salutary influence in old cases of insanity. Modifying and improving some, and entirely restoring others. Hence, it is not an uncommon practice at the Asylum, when a patient with a strong constitution is attacked with intermittent fever, without local congestion or other organic difficulty, to leave him with careful watching, to the influence of his periodical disease. Several cases of mania of long standing have, in this way, been entirely cured.

TABLE SHOWING THE NUMBER OF DEATHS IN EACH SEX.

Year.	Males.	Females.
1821	0	2
1822	4	1
1823	2	3
1824	10	1
1825	1	2
1826	9	2
1827	5	4
1828	8	5
1829	7	2
1830	6	1
1831	13	6
1832	11	4
1833	9	1
1834	10	4
1835	8	5
1836	8	6
	111	49
	49	
	160	

Thus 160 deaths occurring among 2037 persons admitted into the Bloomingdale Asylum, in the course of 16 years, makes rather less than 8 per cent.

111 deaths occurring among 1346 male patients, gives 8¼ per cent.

49 deaths occurring among 691 female patients, gives about $7\frac{1}{11}$ per cent.

Calculated in this way, the mortality among females is more than one per cent., or one-eighth less than among male lunatics.

Pathological anatomy, it may be added, has not been neglected. *Post-mortem* examinations were resorted to, whenever it was practicable to make them. But as the majority of patients in the Bloomingdale Asylum are supported by friends who take a lively interest in every thing that relates to them, and who participate in the general prejudice against dissection, autopsies were more rare than the writer desired, it having been his wish to procure all the information that could be collected relative to an obscure and interesting disease.

As a proper use of the inductive method requires a large mass of facts, a sufficient number has not been collected to establish any new principle, or even materially to strengthen or weaken any opinion hitherto advanced. The facts collected will therefore be reserved for some future occasion, or until a sufficient number of others be added to give them some claim to attention.

Both the object and necessary limits of this paper preclude a consideration of the nature and treatment of insanity, but we cannot bring it to a close without adverting, in a general manner, to the management of the institution, the annals of which are here set forth.

In the admission of patients into the Asylum, the governors have not restricted themselves to any form, degree, or stage of insanity. Believing that the existence of mental derangement, in any of its varieties, constitutes, of itself, a sufficient claim to the care and protection of the institution, they have hitherto received, without reserve, idiotic and incurable, as well as curable patients, to participate in its benefits. This indiscriminate admission, though unfavourable to the reputation of the institution by diminishing the proportion of recoveries, the Governors have thought the interests of humanity required, because there is no other establishment in the State for the reception of the imbecile and incurable, and because these classes often demand that kind of moral management which can nowhere else be so efficiently practised.

The six governors, to whom is delegated the charge of the Bloomingdale Asylum, direct its fiscal concerns and supervise its moral management. Under their auspices the treatment of the insane is strictly mild and parental. Not to speak of stripes and blows, which may be coupled with punishment for witchcraft as one of the relics of barbarism, the use of chains has been abolished, and it is long since there has been such a thing as a straight-jacket in the establishment. The utmost extent of freedom, consistent with safety, has been found the best substitute for these means of restraint.

The same enlightened spirit that first suggested the foundation of an institution on a scale hitherto unattempted in this country, for the exclusive treatment of insanity, soon led to the adoption of a liberal system of moral management. Whatever was found to act favourably on the patient, through the medium of his feelings or intellect, has, from time to time, been brought into use.

Classification, it is now generally conceded, is the first step in the treatment of the insane, where large numbers are collected together. By classification is not to be understood a division of the insane agreeable to the nosological arrangement in books, but a grouping of them according as they are violent or tranquil, convalescent or under treatment, of good or bad habits. It is such an entire separation of the different classes, that the one has not the slightest intercourse with the other without permission. The classification at Bloomingdale, though at first imperfect, has, by various modifications of the original building, and by the construction of lodges for the violent, been rendered much more complete.

Various exercises and amusements adapted to the tastes, habits, and condition of the patients have been introduced. Among these are riding in carriages and on horseback, walking, both singly and in parties, gymnastics, ninepins, quoits, the care of domestic animals, draughts, chess, back-gammon, dominoes, bagatelle, battledore, the graces, painting, ornamental and plain needlework, &c. &c.

Social intercourse, under suitable restrictions, is promoted by assembling all the convalescent and well-behaved patients at the same table, and by means of evening parties, at which music and dancing are the chief sources of enjoyment.

A reading room furnished with papers and periodicals, and a circulating library, are found to be among the most useful appendages of the institution, and serve to lessen the ennui attendant on a life of restriction.

Religious service was introduced into the Bloomingdale Asylum as early as 1832. Independent of the more lasting and important influence of this exercise, and viewing it simply as a moral agent in the treatment of insanity, as promoting order, as aiding self-control, as reviving long-neglected habits, or as continuing those that have been well established, it is found to exert the most salutary effects.

Though many of the female patients are advantageously employed at housework, needlework, &c., and some of the men are induced to labour in the garden and on the farm or pleasure-grounds belonging to the establishment, useful occupation is yet, it must be confessed, an important desideratum.

Chronic cases of insanity in which there exist no palpable symptoms of bodily disorder, can seldom be benefited by treatment purely medicinal. Patients in this stage of the disease, if left to themselves, fall into a state of disgusting apathy, or mischievous and destructive restlessness. The only treatment that remains for them is pointed out by the rules of Hygiene, and consists in a proper observance of diet, clothing, warmth, cleanliness, and a due exercise of mind and body.

In the Bloomingdale and other American asylums, though many patients of the working classes are engaged in useful labour, this method of treatment has not been sufficiently extended. In establishments like that at Bloomingdale, where all the various classes of society are admitted, it will perhaps be impracticable to furnish each class with its appropriate occupation, but there is nothing extravagant in the belief that, in pauper institutions, suitable occupations may be furnished for all, and that a very large proportion of their inmates may be induced to follow them.

Report of Cases of Un-united Fracture, treated at the New-York Hospital. By JOHN S. HEARD, M. D., late House Surgeon.

THE chief object of the following report is to offer to the profession an account of a new mode of treating un-united fractures of the extremities, first practised in the New-York Hospital, and, so far as my knowledge extends, still confined to the practice of that institution. I shall at the same time, however, detail such cases as were treated by the more common methods during my connection with the Hospital, and allude to the different modes of practice recommended by other surgeons.

The *causes* of non-union after fractures are either constitutional or local. Among the former may be classed whatever tends to produce a greater or less degree of general *debility*, the influence of which is felt in the local lesion,—such as severe and extensive injuries, by which the vital forces are tested beyond their powers, and are unable to repair all the injuries received, — organic diseases, as phthisis, chronic dysentery;—or old age.

Among the *local* causes, may be enumerated severe injury of the limb itself, by which the principal vessels are destroyed, or the bone so comminuted, and the soft parts so lacerated, as to prevent reunion; disease of the bone itself; want of co-aptation; of the fragments; — arising from either the interposition of a strip of muscle, the presence of a portion of carious bone, or of some foreign body, as a bullet, or the imperfect reduction of the fracture in the first instance; — want of perfect quietude of the parts for a sufficient length of time, owing to either the use of inadequate mechanical means, or the careless and unscientific application of those which are sufficient; the too firm or too long application of bandages, preventing, by the compression they produce, the requisite degree of vascular action. (The too long-continued use of cold applications may possibly produce the same result.)

Condition of an un-united fracture. — Upon examining an un-united fracture, it will generally be found that there has been some attempt at union in the deposit of bony matter; but this may, in an old case, have been absorbed. The extremities of the fragments become enlarged and rounded, and a band, of a nature between ligament and cartilage, unites them. Or again, the extremity of one fragment may be rounded, while that of the other is converted into a cup-like cavity, into which the former is received and plays, the surrounding cellular tissue being converted by condensation into a sort of capsular ligament.

Objects of treatment. — In order that perfect consolidation and reunion of a fractured bone should take place, the following conditions must be fulfilled:

1. The vascularity of the fragments must be raised to that degree above the natural standard, at which ossific matter is deposited. 2. The fragments must be kept in co-aptation in a state of perfect quietude.

Now the object of all the different plans proposed and practised, is to reproduce this required degree of vascularity, to bring the parts as near as possible into the state of a recent fracture, and then, by the application of mechanical means, to keep the parts at rest in co-aptation.

Different methods of treatment.—I. Blisters. Blisters have been applied over the seat of fracture, with a hope that the irritation produced by them, extending sufficiently deep, would produce the requisite degree of vascularity. We are not aware of the success of this treatment, but should think it would be small.

II. Friction of the extremities.—The extremities of the fragments have been rubbed sharply against each other. This seems to have been the practice among the older surgeons. It is mentioned by Celsus. It has been occasionally successful.

III. Rest combined with local pressure. Mr. Amesbury, after applying himself to the study of recent fractures, turned his attention to those cases in which no union had taken place; and conceiving that one of the principal causes of non-union arose from the insufficiency of the ordinary apparatus, treated a number of cases successfully, by means of an apparatus invented by himself, in which the fragments are kept at rest in co-aptation, pressure being made at the seat of fracture by means of weights and straps. It is on this principle that we think the immovable apparatus will be an important means of treating these tedious cases. In a case of un-united fracture of the os femoris in St. Bartholomew's Hospital, which was of twenty-one weeks standing, and had resisted all the usual means, firm bony union was effected by the application of a tourniquet around the limb, at the seat of fracture.

IV. Salivation. Mr. Colles of Dublin having noticed in some patients who had ununited fractures, but were under treatment for other diseases, and in which mercury was administered, that union took place during salivation, proposed the plan to Mr. Bransby Cooper, who adopted it with success. Mr. Cooper reports the case in the second volume of Guy's Hospital Reports, from which we shall condense it: "A young woman, aged 28, of healthy appearance, and ruddy complexion, was admitted into Guy's Hospital, March 9th, 1836, with an un-united fracture of the left os brachii, just below the insertion of the dettoid muscle. Six months previous she was thrown from a cart, and upon rising from the ground, discovered that she had lost the use of her arm. She immediately applied to a surgeon, who treated the fracture properly and judiciously. But, in about eight weeks after the accident, upon removing the splints, it was discovered that no union had taken place. The splints were replaced, and the arm firmly bound to the side, in order to prevent any degree of motion. The apparatus was worn for a month without being removed, and notwithstanding her strict adherence to every instruction of the surgeon, as to the maintenance of perfect rest, it was then found that no union had taken place. The surgeon therefore re-applied the apparatus, with the addition of an iron splint, extending from the outer side of the os brachii to the wrist, and bent at an acute angle; the arm was, as before, bound to the side. This plan was persevered in for a month; but with no better effect. The surgeon, still unwilling to give up the case in despair, made one other attempt, by applying a bandage tightly round the arm, and placing wooden splints over it, compressed them to the utmost the patient could bear, to which she submitted patiently for two months, at the expiration of which time the fractured extremities were as movable as ever. Upon the 9th of March she came under Mr. Cooper's care, who discovered the two fractured extremities to be in juxta-position, but without any union. The two portions of bone moved readily upon each other, but without producing anything approaching to the sensation of crepitus. On the contrary, the mobility of the part conveyed the impression of the formation of a supernumerary joint, and the muscles were also capable of producing a degree of voluntary motion. Mr. Cooper proposed the introduction of a seton, and the operation was performed on the 23d of March, having previously attempted, for ten days, the effect of forcibly rubbing the bones against each other, without avail. The seton was worn ten weeks, but the irritation which, for the first few days, held out a prospect of success, soon subsided, and proved ultimately to have led to no happier result than any of the former attempts, although it was observed that there was rather less motion between the fragments than had existed prior to its introduction. A bandage dipped in a composition of egg and flour was firmly bound around the arm, the application of which preserved, in the most perfect manner, an immovable condition of the limb. This was worn six weeks, being so applied as to enclose the shoulder and elbow, and to press, forcibly, the two broken extremities of the bone together; but still without effect. As a last resource, Mr. Cooper ordered, on the 12th of June, the whole limb to be enclosed in plaster of Paris, and the patient to remain in the recumbent posture. The plaster was allowed to remain until July 12th, when, upon removing it, the arm was found in exactly the former condition. It was at this time that Mr. Colles suggested the use of mercury to Mr. Cooper, who put the patient under the use of *hyd. c. creta grs. iv. ter in die*, applying, at the same time, a well padded leathern girth around the arm, at the seat of fracture. Ptyalism was induced in four days, and, on the sixth, the mercury was discontinued. The leathern girth was worn for a month, and, upon its removal, Mr. Cooper was gratified in finding perfect union; affording satisfactory proof that mercury had produced an altered action in the capillaries of the affected part, and exemplifying the powerful alterative action of the metal.

V. Seton. Dr. Physick, struck with the severity of Mr. White's method, (to be presently noticed,) and believing it not devoid of danger, proposed the introduction of a seton between the extremities of the fragments, and was successful in causing the firm re-union of a fractured os brachii, which had resisted all the usual treatment for twenty months. The seton was kept in nearly five months. Dr. Physick thought that the seton would be most successful in the upper extremity and in the leg, and if a limited experience would allow us to express an opinion, it would be in confirmation of his. Mr. Liston, entertaining opinions somewhat at variance with those held by Dr. Physick as regards the mode of operation, and the length of time the seton should be allowed to remain, — in a clinical lecture in the North London Hospital, made these remarks: "This operation, (the introduction of the seton,) is more successful than any of the others, and would, I believe, be pretty generally successful, if the surrounding soft parts were a good deal torn up, if the periosteum were a good deal excited, and if a seton were inserted to keep up the action for a certain period. Generally the seton has been kept in for a great many weeks, or even months, until its influence has in a great degree failed, has, in fact, had the contrary effect to that intended, has weakened the deep-seated action. Retaining it for a long time is attended with considerable discharge, which is unfavourable to the process of healing; which puts the soft parts in the situation of a compound fracture, which is by no means desirable. I would have you cut down upon the bone, avoiding the vessels and nerves of importance, cutting the soft parts as little as possible. Introduce an instrument between the ends of the broken bone, turn it well around, and insert the seton, not caring that it should go exactly between the ends of the bone; I would rather it should pass over the surface of the bone, perhaps, one on each side; shake the limb a good deal about, move the instrument roughly."

VI. Introduction of a silver wire between the fragments.— Dr. Somme, principal surgeon and professor in the Civil Hospital at Antwerp, succeeded in effecting bony union in an ununited fracture of the os femoris, 5 months after the injury was received, by passing a silver wire between the ends of the fractured bone. He thus describes the operation: "The patient being placed upon his back, and supported, I passed a long trocar and canula at first downward, on the inside of the upper fragment, and made it pierce the skin behind, and a little to the outside. The trocar was then withdrawn, and a silver wire passed through the canula, and out at the posterior opening. The canula was then withdrawn and replaced upon the trocar. They were again introduced above, and on the outside of the lower fragment, and made to pass out at the same opening behind. The trocar being withdrawn, the other end of the wire was passed through the canula, so that both ends were in contact behind, leaving a loop in front. I then made an incision from one orifice to the other made by the trocar, and drawing the extremities of the wire through the wound, brought the loop between the fractured ends of the bone, and approximated the edges of the wound with sticking plaster." The limb was now placed in a wooden box of sufficient length to receive the thigh and leg, and of such a width as to act as lateral splints. At each dressing the wire was drawn down so as to depress the loop more and more into the flesh. Six weeks after the introduction of the wire, the union was distinct, and shortly after the wire was removed, there being no apparent shortening of the limb, and the patient using it as well as the other.

VII. Injection of stimulating liquids between the extremities.—Dr. Hulse of the United States Navy, proposed, and practised successfully, another modification of the treatment by the seton. A sailor, aged 25 years, fell from the maintop of the Vandalia, and fractured the os brachii about 4 inches above the olecranon process, the lower fragment protruding; the fracture was properly treated by the surgeon of the vessel, but no union taking place, he entered the Naval Hospital at Pensacola, two months after the date of the fracture. Dr. Hulse at first thought of introducing a seton, but subsequently determined upon a course somewhat similar, viz.: the daily injection of a stimulating fluid into the wound which still remained fistulous. He used at first Port wine and water, next salt and water, and finally, a solution of sulph. cupri. During the treatment a portion of necrosed bone was removed; firm union was effected in 2 months.

VIII. Application of caustics to the extremities.—The fragments have been exposed by an incision made down upon them, and various caustic substances applied to their extremities.

IX. Sawing off the extremities.—Mr. White of Manchester, is the projector of a plan of treatment, in which, after exposing the fragments by an incision made down upon the bone, their extremities are removed by a saw. Mr. White first practised this operation in a case of un-united fracture of the tibia which had remained movable for many months. Firm union took place in 12 weeks. He was also successful in a case of fractured os brachii, which had remained un-united for 6 months.

Dr. Inglis, of Edinburgh, was also successful in bringing about osseous union in an un-united fracture of the tibia of 9 months standing, by removing the extremities of the fragments by the trephine and saw. Union took place in 10 weeks. Mr. G. Rowland, met with similar success in a case of fractured os femoris, in which no union had taken place 5 months after the occurrence of fracture.

X. Removing the extremities and connecting the fragments by silver wire.—All these different methods having occasionally failed in effecting bony union,—*it occurred to Dr. J. Kearny Rodgers, one of the surgeons of the New-York Hospital, that if, after removing the extremities of the fragments and exciting their periosteum, he could keep them in apposition for a certain period,—firm osseous union would ensue.* He accordingly after sawing off the extremities of the fragments, drilled a hole in the end of each, and passing a silver wire through, drew the bones together, and kept them in co-aptation until firm union was effected. Subsequently, Drs. Mott and Cheesman, colleagues of Dr. Rodgers, were likewise successful in inducing bony union by the same operation. This operation has not, we believe, been adopted in any other place than the New-York Hospital. Indeed, the only notice of it that I have been able to meet with, is in a report of a clinical lecture by Mr. Liston, in which he makes these remarks: "A proposal has, I think, been made, to denude the ends of the bones, drill holes in them, and connect them by a silver wire. It is too artificial a mode of proceeding, and I should fear, that from exposure and bruising of the ends necessary for accomplishing the object, (for perforation cannot be made unless by denuding the bone freely, and holding it securely by some contrivance until the object is accomplished,) that necrosis, instead of union, would be apt to follow." Now, what Mr. Liston means by "too artificial a mode of proceeding," is not very apparent: in what is it more artificial than Mr. White's method? In the simple passing of a silver wire: and is an operation, although successful, to be abandoned because it is artificial? Surely this rule would have a very limited application in surgery. And as regards "necrosis instead of union," being more likely to follow, it will be sufficient to state, that this operation has hitherto never failed of success. And are we to refuse to adopt a sure plan of treatment, although it be severe, for one which, though less so, still, occasionally, is of no avail?

XI. Amputation.—When from failure of any one or more of the above plans, or the unwillingness of the patient to submit to them, there is no alternative but to allow the patient to carry his useless limb, or to amputate it.

Case I.—GEORGE WESTERFIELD, aged 15, admitted into the New-York Hospital, under Dr. Rodgers, July 25, with an ununited fracture of the right os brachii, about two inches above the elbow joint.

THIS accident was the result of a limb of a tree falling upon his arm in Ohio, in December, 1824. From his account, it appears that a medical man reduced the fracture immediately, and placed splints on the arm, which was borne in a sling. At the expiration of twelve days, the dressings were removed, and the union, which he seems to have expected, not having taken place, the ends of the fractured bone were rubbed together, and the splints re-applied. This treatment was persevered in several months. In June, 1825, a seton was passed between the ends of the bone, and withdrawn in a week; splints were worn for 4 weeks, but no union ensued. He remained without treatment from this time until his arrival in New-York, in June, 1826; in the latter end of June, a seton was passed by a surgeon of this city, and retained for six months, motion being prevented by splints applied to the arm. The seton having been fairly tried, and removed without any beneficial result, the patient almost despaired of ever recovering the use of his arm, but was willing to submit to any expedient which might be proposed, likely to bring about union. It appeared to Dr. Rodgers, that but one other mode offered any prospect of success, and that was Mr. White's plan of sawing off the ends of the bone, and reducing the parts to the state of a recent compound fracture. On the 31st of July, Dr. R. made an incision 3 inches in length, through the integuments of the arm, on the outer edge of the biceps muscle, down to the bone. The lower end was easily turned out of the wound, and half an inch sawed off. The upper end could not be sawed off in the same way; but having guarded the soft parts by a thin slip of wood passed down on each side of the bone, about half an inch was removed by a circular saw. It being found impossible to bring the ends of the bone in contact, in consequence of a slip of muscle passing between them, this was divided; but the fragments, although placed in apposition, soon regained their former bearings an inch and a half asunder. Apprehensive that he should be foiled if the fragments were allowed to remain thus far apart, Dr. R. drilled a hole into the medullary cavity through the shell of each end; through these holes a silver wire was passed, and the ends of the bone retained in co-aptation. The ends of the wire were drawn through a canula, which remained in the wound. The os brachii was much softer than natural, and it was feared that this state would prevent any ossific deposit. The wound was dressed with adhesive straps; and the arm enveloped in splints, was placed on a right angled splint properly hollowed out.

August 15th. The canula fell from the wound with the loop entire, so that the bone must have broken away; the bones however continued in proper position; not expecting bony union for some time, the arm was not examined for a month; during this time the wound had almost healed.

October 8th. 69 days after the operation, Dr. Rodgers was gratified to find that the bone had united, but he was unwilling to test its strength by force.

October 16th. On examination to-day the limb was found to have united perfectly. The patient was not allowed to move from his bed for two months after the operation.

December 3d. The patient was presented to the clinical class, with every motion of the arm perfectly regained, the os brachii being two inches shorter than its fellow.

Dr. Mott was, likewise, successful in bringing about union in a case of un-united fracture of the os brachii by this method, but I am unable to present any authentic report of this case.

Dr. Cheesman, by adopting this operation, effected osseous union in a case of fractured os brachii, of 5 months duration; firm union ensued in 3 months.

Case II.—CHARLES GRILL, born in Germany, aged 26, a cutler, was admitted into the New-York Hospital, September 28th, 1838, with a simple fracture of the radius of the right forearm, about 2 inches above the wrist joint.

THE injury was caused by his hand being caught in machinery and bent forcibly back. There was considerable contusion of the whole forearm, and some laceration of the hand. The fracture of the radius was very oblique, and the lower end of the upper fragment projected nearly through the integuments. The fracture was reduced, and the patient being placed in bed, the arm was laid in a flexed position on a pillow, covered with oil silk, and lot. evap. applied. As soon as the state of the arm would allow, the requisite pads and splints were applied, and the arm supported in a sling. At the expiration of 4 weeks from the application of the splints, they were removed, but no union had taken place. It was now suggested that a strip of muscle interposed between the fragments, was the cause of non-union.

A splint, with a hand piece setting off from the body of the splint at an angle of about 110°, was now applied upon the palmar side of the forearm, in order to elevate the lower fragment. The interosseous pads being only applied between the ulna and this lower fragment, the usual splint was placed on the dorsal side. The arm was thus supported in a sling for six weeks; at the expiration of which period, upon removing the apparatus, there was still no union. The same apparatus was replaced and the patient put under the use of mercury, but it produced profuse diuresis and was discontinued. The splints were allowed to remain applied until January 10th, when Dr. Rodgers made an incision about 2½ inches in length, over the seat of fracture on the palmar side of the forearm; upon exposing the fragments, the radial artery was found running between them; the lower fragment was drawn down to the ulna, while the upper one was separated near an inch from it, a slip of the extensor carpi radialis muscle intervening. The radial artery was divided and secured at both extremities, the intervening muscle was severed, and the ends of the bone removed with the bone pliers. A hole was now drilled into each extremity, and a silver wire being passed through, the bones were approximated by twisting the wire, the end of which was allowed to hang from the wound. The edges of the wound being brought together by adhesive straps, the ordinary pads and splints were applied, and the arm suspended in a sling. A slight attack of erysipelas occurring, required the confinement of the patient to bed and the removal of the splints; upon the subsidence of the erysipelas in a few days, the splints were re-applied.

February 2d. The wire came away to-day, the loop being entire. The splints and bandages were continued until April 2d, when, upon removing them, the union was found to be perfect. He remained in the hospital, using passive motion, until April 15th.

Case III.—MATTHIAS LUDLUM, born in New-York, aged 28, an engineer, was admitted into the New-York Hospital, May 12th, 1838.

THIS man, about an hour previous, while tending his steam-engine, was caught by the skirt of his coat on the fly-wheel, which was making about 250 revolutions per minute. He was forcibly carried around, and, at every revolution of the wheel, was thrown against the brick arch above, and on the stone floor below. His cries soon brought a number of persons, but they were unacquainted with the management of the engine, and he was obliged to give the necessary directions for the shutting off the steam. He was at length removed, having been carried round between 200 and 300 times; he was perfectly sensible, and says he felt little or no pain. He was immediately conveyed to the hospital, and, when I first saw him, his condition was as follows: perfectly sensible — pulse small and feeble — surface cool, but not cold — a compound fracture of the bones of the forearm, just above the wrist joint — a fracture of the right os femoris about its middle, — a compound fracture of both bones of the left leg, just below the knee joint — severe and extensive laceration and contusion of the soft parts of both legs, more particularly of the left — several lacerated wounds of the scalp; indeed no part of his body seemed to have escaped severe contusion.

External warmth was immediately applied, and internally he had warm brandy toddy.

This patient presented a rare combination of circumstances, to which, in all probability, is to be ascribed his not sinking beneath the primary shock of the injury. To a mind rendered perfectly tranquil and resigned to the result by a lively faith in the Christian religion, he added a constitution whose powers, naturally strong, had been strengthened by a life of absolute temperance. This was a combination rare in a patient the subject of so severe an injury, and, especially, in an hospital patient.

About two hours after his admission, Dr. Stevens saw the patient and directed the ordinary apparatus of the house to be applied. Accordingly the right inferior extremity was loosely enveloped in a many-tailed bandage, and, the fracture being reduced, was placed on a double inclined plane, and the foot firmly secured to the foot-piece. The left limb was treated in a similar way, with the exception of the fracture-box being extended instead of bent. A broad flat splint, well padded, was placed upon the palmar side of the left forearm, which was loosely bandaged to it; the wounds were dressed with adhesive straps and lint, and an anodyne evaporating lotion applied to the fractured limbs. On the fifth day he was transferred into one of Amesbury's fracture beds, defœcation being attended with great pain and considerable movement of his body on the common bed of the ward. At this time the fracture-boxes were removed from the limb, the fracture-bed fulfilling all the indications, with the aid of splints. Erysipelas now attacked the right leg, which had been severely contused, and spreading to the thigh, it became necessary to remove *all* the splints and bandages, for several weeks. About the middle of June, 4 curved splints, well padded, were applied to the fractured os femoris, but it was impossible to make any permanent extension from the inflamed condition of the foot, in which abscesses formed. The form of the bed, however, acted so as to produce, in some measure, the desired extension.

Towards the latter end of June, the foot being healed, Amesbury's splint for fractures of the thigh, was applied, and allowed to remain on until the middle of October. The fracture of the leg united in eight weeks; union also took place in the bones of the forearm.

About the middle of October, the Amesbury apparatus was removed, having been applied 14 weeks, but no union had taken place, and the bones were as movable now as at the time of admission, and the patient much reduced by the profuse suppuration. A roller was firmly applied to the limb from the toes to the groin, and a felt splint, moulded to the thigh, was bound firmly on by straps. This apparatus was kept applied until the beginning of December — but no union ensued. At this time the immovable apparatus was applied, and a mercurial course instituted. This plan was persevered in until the beginning of February, (salivation having occurred in the mean time,) but with no more success.

It was now determined in consultation to remove the ends of the fragments and connect them by a silver wire.

February 9th, 1839. Nine months after the occurrence of the fracture, the operation was performed by Dr. Cheesman. He commenced by making an incision about six inches in length, over the upper fragment on the outer side of the thigh, by which the bone was exposed, and, with considerable difficulty, turned out about an inch, which was then removed with a saw, and a hole drilled through the extremity. The leg was now carried across the other, and thus the lower fragment made to form a prominence beneath the integuments. A catlin was then passed from the lower fragment through the vastus externus muscle, and after much difficulty, and with considerable pain to the patient, the extremity of the bone was thrust out and removed, and a hole likewise drilled through this extremity — a silver wire, of about the thickness of an ordinary probe, was now passed through these holes, and powerful extension and counter-extension being made by the compound pulleys, the fragments were brought in co-aptation and kept in apposition by twisting the wire.

The wound was brought together by suture and adhesive straps, the end of the wire hanging from the wound. The ends of the bone had passed one another about two inches, the upper fragment looking outward and downward, and the lower inward and upward. The operation occupied one hour and a half.

The patient was removed from the operating-table to a firm mattrass, with a hole in it, so as to allow the calls of nature to be obeyed without movement of his body. A tin splint, of sufficient length to reach from the crest of the ilium to the ancle, and of such a width as to encircle two-thirds of the limb, well padded, and lined with oil silk, received the limb. There was a portion of this splint, about six inches square, opposite the wound, so arranged as to move on hinges, permitting the necessary dressing to be made without disturbing the limb. An attack of erysipelas followed the operation, with the exception of which the patient did well. The wire having nearly made its way out, was removed April 19th; the bone apparently united.

The limb remained in the splint until May 15th, when it was found that perfect union had taken place, the limb being two inches shorter than the opposite one. He remained in the Hospital until July 25th, when he was removed into the country.

Case IV.—ABEL SNYDER, born in New-York, aged 19, a private in the United States army, was admitted into the New-York Hospital, May 10th, 1838.

ABOUT six months previous, while on duty in Florida, his horse ran away with him, and dashed him against a tree, by which his left os femoris was fractured about the middle. A surgeon applied a number of small splints to the thigh, but from the press of business of the campaign, or some other cause, did not visit him but two or three times, and upon removal of the splints it was found that no union had taken place. He remained without treatment until the period of his admission into the Hospital, when his condition was as follows: the limb was four inches shorter than its fellow, and greatly deformed, the thigh being bent outwards, so as to form a considerable curve; the heel resting upon the instep of the opposite foot; great mobility at seat of fracture, the fragments appearing to be connected by a ligamentous union. Shortly after his admission, two separate attempts were made by Doctors Stevens and Cheesman to break up this union, and reduce the limb to its proper axis. For this purpose, a stout splint, one inch in thickness, and of sufficient length to reach from the perinæum to below the knee, was placed upon the inner side of the thigh; the upper end of this splint was formed into a crutch, and the whole was firmly padded, with the exception of the middle third. A pad was then placed over the projection formed by the bones on the outer side of the thigh, and a screw put upon the limb, but though the limb could be brought to its proper direction, and considerably elongated, it regained its former condition immediately upon removing the screw. Dr. Cheesman now directed Physick's modification of Dessault's long splint to be applied to the limb; a broad strap being firmly buckled around the apparatus, at the seat of fracture, the extension was increased every five or six days. This apparatus was kept applied two months, and upon removing it, it was discovered that firm union had taken place, and that the limb was only one inch and three-quarters shorter than the opposite one, the patient having as perfect use of it as of the other.

Case V.—JOHN CUMMINGS, born in Scotland, aged 38, a seaman, was admitted into the New-York Hospital, under Dr. Hoffman, April 1st, 1839.

IN October, 1838, while at sea, he fell from the topsail yard on deck, a distance of 20 feet, by which accident the left os femoris was fractured about its middle. Being on board a common trading vessel, and there being no surgeon on board, he received no treatment other than being kept in bed for two months. Upon admission, the limb was found to be shortened two inches, and considerably deformed, the upper fragment forming quite a prominence beneath the soft parts of the outer side of the thigh, while the lower one was carried inwards and downwards. There seemed to have been no attempt at union, the part allowing of a great degree of motion. On the 8th of April, after making powerful extension of the limb, a starched bandage was applied from the toes to the groin, and over this a second. Three pasteboard splints were next moulded to the thigh, the outer one extending from below the knee to the crest of the ilium; and over these, three more starched bandages were applied. The patient was kept in bed with this apparatus applied until the beginning of July, at which time, upon removing it, it was ascertained that union had taken place. But the patient thinking the limb as strong as the other, was careless in his movements, and, unfortunately, again fractured it. The starched apparatus was again applied, and a mercurial course instituted, under which treatment he continues at this date. (August.)

Case VI.—MICHAEL POWELL, a healthy Irish labourer, aged 28, was admitted into New-York Hospital, March 31st, 1838.

ON the 5th of January, while engaged at work on the Croton Aqueduct, his left os femoris was fractured by a blow of a stone from a blast. A medical man in the vicinity placed a number of small splints on the thigh, which were kept loosely applied for seven weeks, at the expiration of which time he was allowed to get up from his bed and walk, in attempting which the union gave way. He remained without further treatment until the time of his admission into the Hospital, when the following was his condition: a fracture of left os femoris, just below the trochanter major; limb two inches shorter than the opposite one; great mobility of the parts. The end of the fragments were forcibly rubbed against each other, and the patient placed on Amesbury's fracture bed; four curved splints, well padded, were secured to the thigh, whose length had been increased one inch by extension; the foot was securely attached to the foot-piece. This plan of treatment was persevered in for three months, without bony union being effected. He was now allowed to walk about with the aid of his crutches for several days, with the hope of thereby exciting vascular action in the fragments. He was then again placed in bed, and Physick's modification of Dessault's splint for fractures of the thigh applied to the limb; at the same time mercury was given, and salivation twice induced. This course, continued for twelve weeks, led to no happier result. On September 16th, it was determined, in consultation, to introduce a seton between the extremities of the fragments. Accordingly, Dr. Cheesman made an incision, about three inches in length, on the upper and outer part of the thigh, over the seat of fracture, down to the bone. A hole was then bored through the extremity of the lower fragment, through which a seton-needle, armed with a skein of coarse silk, was passed, and made to pierce the integuments on the inner and under side of the thigh; the wound was approximated by adhesive straps, and the patient placed on Amesbury's fracture-bed. A smart attack of irritative fever, attended with profuse suppuration from the course of the seton, prostrated the patient exceedingly, and demanded the removal of the seton, at the expiration of twenty-four days from the date of its introduction. Under the use of a generous diet, with quinine, he recovered his health; but in January the fragments were as movable as ever. At this time, the immovable apparatus was applied, and kept on for ten weeks; but without any greater success.

March. As the only resource from the high position of the fracture, and at the request of the patient, it was resolved, on consultation, to remove the limb by amputation. From a belief that the bone was diseased, it was proposed to the patient to amputate at the hip joint, but he would not consent.

March 14th. Dr. Cheesman amputated, by the circular method, at the seat of fracture. Upon examining the portion of the thigh removed, it was found that the bone had been sawed so as to remove about half an inch of the upper fragment, which was connected to the lower one by a band of ligamentous union. The lower fragment was deprived of periosteum for about an inch, and quite rough. A portion of the upper fragment was in the same condition.

The patient seemed exceedingly prostrated by the operation, which was increased by an attack of secondary hemorrhage from sloughing of the stump, forty-eight hours afterwards. He continued to sink, notwithstanding every effort, and died on the 24th, ten days after the operation.

Upon examining the stump, the femoral vein was found inflamed, the bone in a state of necrosis, and the muscles disorganized.

Case VII.—LUKE CLARK, born in Ireland, aged 60, was admitted into the New-York Hospital, August 10, 1838.

TEN days prior to his admission, the left os femoris was obliquely fractured, at the junction of the middle and lower third of the thigh. He received no treatment until his entrance into the Hospital, when Physick's modification of Dessault's splint was applied. A splint being also placed beneath the thigh, there was no appreciable difference in the length of the two limbs. At the end of two months the apparatus was removed, but no union had taken place. Friction of the bone and limb were now made, and the splints reapplied for two months more; but still without success. Intermittent fever of the quotidean type attacked the patient at this time, which was, however, after some time, controlled by Fowler's arsenical solution.

December. The immovable apparatus was applied and remained on three months, yet no union took place.

February 19th. Upon consultation of the surgeons, it was resolved to amputate. The operation was performed by Dr. Cheesman, by the circular method.

Upon examination of the portion of the limb which had been removed, it was discovered that there was an oblique fracture just above the condyles of the os femoris; the fragments had passed each other about an inch, and were connected by a ligamentous band. Upon sawing through the lower fragment in the direction of its long axis, it was found exceedingly soft; and yielding upon pressure with the finger, around its medullary cavity, an oily fluid exuded. The tibia presented the same appearances upon examination. The stump healed kindly, and the patient was sent, June 10th, to the Bellevue Hospital; labouring, no doubt, under the same disease of the remaining portion of the os femoris.

Case VIII.—ERASMUS RASMUSSON, a native of Denmark, aged 20, a seaman, was admitted into the New-York Hospital, under Dr. Post, January 2d, 1839.

THREE months previous, he was attacked with dysentery, which enfeebled him exceedingly; but, notwithstanding, he kept at his work on board the vessel, when, in October, he fell from the maintop to the deck, a distance of forty feet By the fall, his right os femoris was fractured about the middle. Some rude attempts were made by the officers of the vessel to reduce the fracture and apply splints; but either from the insufficiency of these, or from the prostration induced by the dysentery, which still continued, or more probably from both combined, no union ensued. Upon his admission into the Hospital, he was reduced almost to a skeleton; he had six or seven stools daily; the fractured limb was four inches shorter than its fellow; there appeared not to have been the slighest attempt at bony union. The patient was perfectly helpless, and could not move in bed without assistance; nothing was done for the fracture, all efforts being directed to check the dysentery. Under the internal use of nit. argent., in the form of pill, he began to improve, and some hopes were entertained that he might eventually rally; but an acute attack of pneumonia carried him off.

Upon examining the limb, the os femoris was found broken into three fragments. The middle one, about five inches in length, was placed obliquely across the axis of the limb, connected to the lower fragment by tolerably firm union. Between the upper and middle fragments an exuberant mass of osseous matter had been thrown out, but no bony union had taken place; an imperfect articulation having been formed between these fragments.

Case of Hydrophobia. Reported by RICHARD H. COOLIDGE, one of the Assistants of the Bellevue Hospital.

JOHN TYSON, a coloured man, ætat 23, was admitted to the Bellevue Hospital, on Sunday, July 28th, 1839, at 2 P.M. He had been bitten about 7 weeks previous to his admission by a Scotch terrier, supposed to be mad; the cicatrices of two wounds were visible, one on the inner, the other on the outer side of the forearm, about one inch above the carpus, and also on the right leg, about three inches above the internal malleolus. The wounds had been primarily treated by a physician of this city, with the application of nitric acid, and the patient was presumed to be free from danger.

On his admission he was labouring under the following symptoms: Great difficulty of breathing, with frequent spasmodic contractions of the muscles of the pharynx, larynx, and, apparently also, of the diaphragm; difficulty of swallowing, sore throat, increased secretion of saliva, and pain on pressure over the spine, particularly in the lumbar region. His countenance wore at times a peculiar sardonic expression, at others, it was expressive of fear and anxiety rather than of pain, the eyes were glassy, and the pupils somewhat dilated. He had a desire for water, saying, that if he could drink he would be relieved, as his throat was parched; some water was instantly brought to him, but the sight alone produced such violent spasms, that he was almost suffocated. During the afternoon, he, by request, again attempted to drink some water. With an expression of fear, yet with great resolution, he took the cup in his hand, but before he could raise it to his lips, his courage forsook him, and he was obliged to desist; after a short time, he repeated the experiment with less fear, yet, still with considerable difficulty, and succeeded in swallowing a small quantity, but at the same instant fell back on his bed, in violent spasms and gasping for breath. It was deemed advisable to remove him from his ward to a private room, in doing which, he had to pass an open window, through which a free current of air was blowing; he instantly stopped unable to speak and hardly to breathe, intimating by signs that the sash must be lowered, which being done, the paroxysm almost instantly subsided.

TREATMENT.—From the success attending the use of spts. terebinthinæ, in large and frequent doses, in cases of tetanus, and from the analogy between the two diseases, it was determined to try its effect in this case. Thirty-six cups were first applied to the spine, 18 on either side from the fourth cervical to the last lumbar vertebra, and about ℥ xviii. of blood drawn by them. Two strips of emp. vesicat. were then applied over the cupped surface, each extending from the sacrum to the neck, and retained in their place by straps of emplast. adhes. drawn round the body. The patient was then put on the use of spts. terebinthinæ, in teaspoonful doses repeated every five minutes, mixed in a tablespoon with mucilage of gum arabic. Very little difficulty was experienced in giving him the medicine, he appearing extremely anxious to take any thing which it was thought would do him good; the swallowing of the medicine was always attended with spasm of the muscles of the throat. After taking ℥ ii. of turpentine, he had four or five evacuations of a dark green colour and quite watery. A cup of tea was now given to him at his own request, the whole of which he drank with comparative ease. Pulse, on admission, 76, now 81, full and hard; tongue slightly furred; skin soft and moist.

Half-past 9, P. M. The spts. terebinthinæ were now mixed with an equal portion of mucilage, and a table spoonful of the mixture administered every 15 minutes. He has asked for a lemon, which he is now sucking; pulse still 81, skin moist.

Half-past 1, A. M. The paroxysms have been very violent, but he is at present quite calm; says he is much better; his throat is not as sore as it has been, and he is quite sure of recovering. Pulse 96; profuse perspiration; slight dysuria; he has had four evacuations from the bowels, all of them similar to the first.

2 A. M. Walking up and down the room in agony for want of breath. The abdomen is distended with air; after belching a little, he feels quite easy for a few minutes, when the dyspnœa returns as violently as ever. In the intervals he is quite composed, and asks pardon for any injury which he may have inflicted during the paroxysm. It has been impossible to administer his medicine since one o'clock, owing to the violence and frequency of the spasms. His actions have not been restrained, except by speaking mildly, and fixing the eye firmly upon him, which he cannot bear. Pulse 100; free perspiration; the secretion of saliva more abundant; dysuria increased.

5 A. M. As the morning dawned his paroxysms increased both in frequency and violence; he has made several attempts to escape from his room, and to strike his attendants. The application of straps was considered necessary, in order to prevent him from injuring either himself or others; some difficulty was experienced in their application, the patient constantly striking and kicking at those about him, and, on one or two occasions, endeavouring to bite them. About 6 o'clock he commenced vomiting a yellow fluid, which was thought to be stercoraceous, but its odour was so much disguised by turpentine, that its character was undetermined.

8 A. M. The vomiting still continues, though at longer intervals; the patient is perfectly quiet and sensible of his situation, talks composedly of his approaching dissolution, and has requested that a *post-mortem* examination should be made of his body. He died at 20 minutes past 8 A. M., having been in the hospital 18 hours.

AUTOPSY.—Six hours after death.

The head was first examined. The dura mater and pia mater were found perfectly natural; the tunica arachnoides was highly inflamed, and the inflammation extended along its whole surface over both the brain and spinal marrow; the superficial veins of the brain were distended. The substance of the brain and spinal marrow presented no unnatural appearance. The pharynx and larynx were examined, and the mucous membrane lining them was found slightly inflamed.

CHEST.—The superior lobe of the right lung was healthy; the middle and inferior lobes of this lung, and also both lobes of the left lung, were highly congested.

The heart was hypertrophied, and both the ventricles and auricles distended with blood. Some spots of inflammation were found on the pleura as it is reflected over the thoracic surface of the diaphragm.

ABDOMEN. — The stomach and intestines were moderately distended with air, and the mucous membrane throughout the whole extent of the alimentary canal, was found inflamed, and somewhat softened, particularly that portion lining the stomach. The rest of the abdominal viscera were perfectly natural. The veins leading from the wounded parts were minutely examined, and no traces of phlebitis were apparent.

Case of Femoral Aneurism. Ligature of the External Iliac Artery. Cure. By JAMES H. DICKSON, M.D.

ELIZABETH CLANCY, an Irishwoman, 43 years of age, has, of late years, led rather an irregular life; but has enjoyed almost uniform health up to the time of the occurrence of the disease, for which she now applies for relief. She states that about two months ago, she first discovered a tumour on her left thigh, her attention being drawn to it in consequence of the pain which it gave her, particularly while walking. Under the impression that it was a common inflammatory tumour, she has made a variety of applications to it, with the hope of inducing suppuration. Being disappointed in this expectation, and finding that the tumour was increasing very rapidly in size, and becoming more and more painful, she has been induced to make application at the New-York Dispensary for advice. She is not sensible of having sustained any injury of the part, and can assign no cause for its occurrence.

On making an examination of the tumour, its aneurismal character was apparent, from the strong pulsation which it communicated to the hand, both laterally and vertically, by the fact that its pulsation was arrested and its size diminished by compression of the femoral artery, as it passes over the pubis.

The tumour occupied nearly the entire upper third of the thigh, its superior margin being about an inch below the ligament of Poupart; and it extends downwards, following the course of the artery nearly to the point where that vessel turns under the limb, thus occupying nearly the whole of the upper and inner aspect of the thigh. On the outside of the thigh, opposite the aneurismal tumour and extending some distance above it on the hip, there is an extensive sub-cutaneous ecchymosis, presenting precisely the appearance of that which arises from a bruise. A similar appearance, but of less extent, is observed on the inner side of the leg. The circumference of the thigh, at the point occupied by the aneurism, is 21 inches.

The pain in the limb has, for more than a week past, been so excessive as almost entirely to deprive her of sleep. Her general health is, however, unimpaired, her appetite is good, the action of the heart is perfectly normal, and the respiratory murmur audible throughout the entire lungs.

The nature of the case, and that of the operation proposed for its cure, being explained to her, she readily consented to submit to it. After three or four day's confinement to bed, during which time she was restricted to a low diet, and took an aperient, the following operation was performed on the 30th of

June, in the presence of Drs. Gold-Smith, Washington, Swett, Cumming, and Adams.

The patient, having previously taken 60 drops of laudanum, was placed on a table, and an incision made, something more than three inches in length, beginning at a point a little above, and about an inch distant on the inner side, from the anterior superior spinous process of the ilium, extending obliquely downwards and inwards, and terminating over the inner margin of the abdominal ring, about half an inch above the ligament of Poupart.

The incision being continued through the cellular and adipose tissue, exposed the tendon of the external oblique muscle, which, being punctured, was divided upon a director to nearly the extent of the external wound.

The fibres of the internal, oblique, and transversalis muscles were then carefully divided to about half the extent of the external incision.

The finger was then introduced into the wound, and the peritonœum gently separated from its attachments and pressed upwards, so as to expose fully an inch of the artery.

The wound being now held open by a retractor, the artery was separated from its corresponding vein by a few light touches with the handle of the scalpel, and a ligature passed under it with a common aneurismal needle. A careful examination was now made to ascertain that nothing but the artery was in the way of being included in the ligature. Being satisfied on this point, it was tied firmly, and as high up as could be conveniently done; upon which all pulsation in the tumour immediately ceased. Very little blood was lost during the operation.

The edges of the incision were approximated by adhesive straps, a compress and bandage applied, and the patient put to bed, with the thigh a little flexed on the pelvis.

July 1st. Had suffered a good deal of pain during the night, in the lower part of the abdomen and in the limb, but has had some sleep. The limb is sufficiently warm, except the foot, which is slightly colder than its fellow. Pulse 93 and of moderate strength. The leg and foot were wrapped in flannel, and toast water and Indian gruel ordered for diet.

In the afternoon the pulse has risen a few beats, now numbering 100. She complains of great pain in the knee, particularly around the patella. Her skin continues moist, she complains also of great heat in the limb, though, to the hand, it is sensibly colder than the sound one.

July 3d. Has had several hours' sleep during the past night, under the influence of an opiate; she still complains of great pain at the knee.

The wound was dressed. Slight adhesion has taken place throughout its entire extent, except at the point where the ligature comes out. ℞ Ol. Ricini ℥i.

July 5th. Very slight pulsation is perceptible in the anterior tibial artery. The circumference of the limb, over the aneurism, is eighteen inches. The ecchymosis, which was described as occupying the upper and outer part of the thigh, and the inner part of the leg, has faded very considerably. It continued to be gradually absorbed until, at the expiration of a fortnight, scarcely a shade of discolouration was perceptible.

It would be tedious to continue the diary of the case, and I would therefore merely state, that it progressed to a favourable issue, without the occurrence of a single untoward symptom. The ligature did not, however, come away until the 35th day. Before this time, the aneurismal swelling had entirely disappeared, a small nodule only being perceptible upon examination. The measurement of the limb, on the day in which the ligature was discharged, gives a circumference of 12½ inches.

Remarks. — The only points at all peculiar in the case, are the existence of the ecchymosis before described, and the occurrence of severe neuralgic pain in the knee, immediately after the operation. The latter symptom strikes me as being very analogous to the *knee pain*, which is so frequently complained of in *morbus coxæ*, and is probably referable to the division of some of the nervous branches, the extremities of which ramify about the knee; being in accordance with a physiological law, by which an injury sustained, or a morbid impression made in the course of a nerve, is frequently referred to its sentient extremity.

The ecchymosis had precisely the appearance of the subcutaneous effusion of blood which results from a severe contusion, being of a dark purple hue in the centre, and gradually shading off into a greenish yellow tint. The patient is not, however, aware of having sustained the slightest injury of the part, and its occurrence in two distinct points, (the inner side of the leg, and the outer side of the hip,) detracts from the probability of its being the result of external violence. In the absence, then, of any external cause to which to ascribe it, how are we to account for its occurrence? I am disposed to attribute it to the pressure of the aneurismal tumour upon some of the venous trunks, thereby producing an obstruction of their corresponding radicles, and a consequent partial extravasation of their contents. As soon as this pressure was removed by cutting off the supply of blood to the aneurism, absorption went on rapidly, and the ecchymosis disappeared, *pari passu*, with the subsidence of the tumour.

Whenever a case presents any peculiarities, though, perhaps, not of great apparent importance, I consider it right to record them, as a knowledge of them may hereafter be of some value; and, for this reason, I have thought it proper to refer to these, perhaps not very essential points of difference, between this and other cases of the kind.

An Essay on the Indications for Tracheotomy, founded on the Absence of the Vesicular Murmur of Respiration. By J. B. BARTH, Clinical Chief to the Faculty of Medicine, Paris. Vice President of the Medical Society of Observation. Translated from the French, by JOHN PUNNETT, M.D.

THE more or less complete absence of the vesicular murmur of respiration, is one of the most important changes that takes place in the lungs in different diseases, but one which has, as yet, attracted but little attention.

Laennec, while mentioning the fact in his general view of mediate auscultation, offers this single remark: "In cases where we find the respiration absent over a certain portion of the chest, we may be assured that the corresponding portion of the lung is, from some cause or other, no longer penetrated by the air." In other portions of his work, he speaks of the temporary suspension of the respiratory murmur in *pulmonary catarrh*, of its feebleness or cessation in cases of *pleuritis* with effusion, and in *pneumo-thorax*. Finally, while speaking of *pulmonary emphysema* he remarks that, "if we listen for the respiration of an individual affected with this disease, it cannot be heard over a large portion of the chest, although the sound on percussion continues very clear, and in those portions where the respiratory murmur is heard, it is still very feeble."

M. Rostan, in his article, *Auscultation*,* remarks that, "if the sound of respiration ceases to exist in a portion of the lung, that portion is impermeable to the air." He alludes particularly to cases of *pulmonary emphysema* and of *pneumo-thorax*.

Dance† also remarks, that "the murmur of respiration becomes diminished from a multitude of causes, in different diseases of the lungs, and always indicates that the quantity of air entering the lungs is insufficient to the oxygenation of the blood. This diminution of the respiratory murmur may be the result of *hepatization* or of *tubercular infiltration*. The murmur may also be hardly perceptible in *pneumo-thorax* or in *pulmonary em-*

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* Dic. de Med.

† Dic de Med. on Répertoire Général.

physema; or it may cease to be heard entirely, when the effusion has completely compressed the lung."

Finally, without attempting to quote the statements of a large number of authors, I will only state the remarks of M. M. Delaberge and Monneret, who, in their excellent compendium* of modern opinions offer the following: "the murmur of respiration *is diminished* when the lung is pushed a few lines only from the wall of the thorax, by an effusion of liquid into the cavity of the pleura: when a thick false membrane covers the pleura of the lung: when the substance of the lung is slightly congested with blood or with serum: when a tuberculous infiltration is sufficient to prevent the free expansion of the pulmonary tissues — *it is entirely absent* when the liquid effusion is sufficient to prevent the lung from remaining in contact with the walls of the chest: when from inflammatory or other morbid action, the substance of the lung has become indurated and impermeable to air: when a bronchus is obliterated, so that the air can no longer penetrate the branches that spring from it."

If we sum up these different opinions, we shall observe that the murmur of respiration may become either feeble or absent: 1st, in affections of the pleura, as the effusion of liquids or gases, or of thick false membranes: 2d, in diseases of the lung itself, as tubercles, catarrh, emphysema, obliteration of the bronchi. These are the causes of this phenomenon which are mentioned by authors, — and this is the limit of their observations up to the present time. There are, however, other causes which often give rise to a more or less perfect abolition of the respiratory murmur, and which, in their relation both to diagnosis and therapeutics, it is of the highest importance to understand. *I allude to those obstacles which prevent the free introduction of air into the air-passages, by producing stricture or occlusion either of the larynx or trachea.* In 1831, when a walker in the wards of M. Louis, I had occasion, for the first time, to observe a fact of this kind, very remarkable from the nature of the obstruction, and which I will detail with a minute description of the pathological lesion.

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* Compendium de Médecine Practique.

CASE I. *Sensation of uneasiness at the Throat,—Dyspnœa, progressive, finally becoming extreme,—great change in the voice,—almost complete absence of the respiratory murmur. Death. Stricture of the Glottis. Hypertrophy and degeneration of the Thyro-arytænoid ligaments.*

FRANÇOIS PARIS, aged 54 years, a day labourer, of middling stature, good constitution, and of sanguine temperament, was admitted Sept. 1st, 1831, into the hospital of La Pitié. Three months and a half before this, he was attacked with a feeling of uneasiness about the larynx, which he compared to the sensation which a tumour at that part might be supposed to produce. This difficulty increased insensibly, and was soon accompanied by slight dyspnœa and change in the voice; still the patient lost but little flesh. About two months from the first symptoms, a slight cough supervened; a month afterwards the voice and respiration acquired a hissing character, until on the 26th of August the continued increase of these symptoms obliged him to interrupt his occupation; five days after this, he entered the wards of M. Louis, at La Pitié. The next day, September 2, the following was his condition: he lay with his head and body raised; his face neither red nor much swollen; his features expressive of great distress, but without any alarm as to his situation; respiration considerably embarrassed, hurried, and irregular; inspiration painful, noisy, and accompanied with a peculiar hissing; expiration easy. The voice greatly changed; speech very difficult; tone of the voice hoarse and noisy, and his words had a jerking character, as if interrupted by a convulsive effort. The thorax and shoulders expanded suddenly at the moment of respiration, which took place 15 times a minute. *The chest was sonorous in its whole extent, but the respiratory murmur was almost extinct,* only a slight sonorous rattle being perceived at the posterior portion of the thorax. The finger passed into the throat did not discover any soft tumour about the upper part of the larynx. Pulse 112. (Prescription — venesection ad ℥ix. demulcent drinks; pediluv with mustard; flaxseed-injection; soup.)

At the visit, the 3d, patient dead; was informed that the evening previous he had frequently sat up, had several times risen and walked the wards to enable him to breathe easier. Through the night he still sat up, with his head raised, and even left his bed several times; he died about 5 A. M.

AUTOPSY.—Twenty-eight hours after death.

LARYNX.—Epiglottis natural. The mucous folds connecting the arytænoid cartilages with the tongue slightly infiltrated. The submucous cellular tissue lining the superior and internal portion of the larynx was slightly congested; but on attempting to pass the little finger into the cavity of this organ, we discovered that at the level of the vocal chords, it was almost entirely obliterated by two firm tumours, growing from each side of the larynx. The posterior portion of the larynx being divided, these tumours were found to have originated beneath the folds of the mucous membrane which form the inferior vocal chords. They extended so far upward as to efface the opening of the ventricles of the larynx, and to push up the superior vocal chords. After removing, with care, the mucous membrane lining the glottis, there was seen on each side, at the place occupied by the thyro-arytænoid ligament, a tumour, narrowed towards its two extremities, expanding at its centre, and which, upon close inspection, seemed to be the ligament itself, altered in tissue and dimensions. Near its point of attachment some fibres were still discernible, but the rest of it was hypertrophied and transformed into a dense, homogeneous mass, presenting some spots of ecchymosis, and of an aspect approximating that of some cases of commencing schirrus. The length of the tumour, between its two points of attachment, was 13 lines. In its most prominent part its vertical diameter was six lines, and its transverse, four lines and a half. The lungs were emphysematous, and the inferior lobe of the left lung congested. The heart was red, flabby, and softened.

This observation, at the time when it was made, did not attract my particular attention, and I had almost forgotten it, when, in 1835, being house physician in the same wards, a new example was presented to me, very analogous to the preceding.

Case II. *Gonorrhœa,—marks of constitutional syphilis,—3 years after, progressive dyspnœa,—alteration in the voice,—respiratory murmur wanting,—threatened suffocation,—laryngotomy. Death. Autopsy. Contraction of the cavity of the larynx,—excrescences of a syphilitic appearance,—œdema of the submucous tissue,—caries of the cartilages,—perforation of the œsophagus.*

Routier, aged 30 years, 5 feet 6 inches in height, of strong frame, entered the Hospital of La Pitié, in the spring of the year, 1835. He had had gonorrhœa, 3 years before, and on his admission still presented cicatrices of a copper colour, under the chin and on different parts of the body. His present disease was of 4 months standing, and commenced with a cough, at first dry and unfrequent, afterwards constant and attended with an expectoration, the character of which the patient could not describe. At the same time, his voice became changed, and he experienced difficulty in breathing. These symptoms gradually increasing, induced him to enter the Hospital, 5th May; the succeeding day he presented the following symptoms: Paleness; emaciation; hoarseness—respiration oppressed and slightly hissing; cough, followed by a semi-opaque expectoration,—no pain in either the chest or larynx, even on pressure. On examining the fauces no œdema was discovered; on percussion, the *chest yielded at every part its normal sound, but the respiratory murmur was wanting.* Nothing was heard but the hissing sound in the larynx—no rattle, nor abnormal resonance of the voice in any part; the other functions not sensibly affected. (Prescription:—sudorific potion,—a pill containing ⅛ of a grain of corrosive sublimate, and ¼ of a grain of opium,—flax-seed injection.)

This treatment was continued the following days, increasing the dose of the sublimate to the ¼ of a grain in 2 pills, and the patient remained nearly in the same state,—walked about nearly all day, and did not appear to suffer pain or uneasiness as to his condition.

11th. Dyspnœa more marked; inspiration long, and more hissing than before; voice more hoarse, but strong.

13th, The patient in bed; face pale, anxious, and covered with sweat—intelligence impaired,—respiration much more embarrassed and irregular; inspiration hissing and prolonged, and ceasing sometimes for 8 or 10 seconds,

— interrupted by a loose cough accompanied by a thick viscid and slightly aërated expectoration. The finger introduced into the throat discovered no œdematous swelling. The chest was sonorous on both sides in front, but the *respiratory murmur wanting.*

Behind, on the left side, the vesicular murmur *was also absent*, whilst on the right, percussion was dull, and the respiration bronchial,—the pulse frequent and hard, 160 a minute; the skin hot and moist, and on the right side of the nose an erysipelatous spot the size of a franc,— the patient growing worse during the day, and being threatened with suffocation, M. Lisfranc performed the operation of laryngotomy. The moment the crico-thyroid membrane was divided, the patient started up and breathed convulsively, but as soon as the canula was introduced, (the diameter of which was about 2 lines,) he became calm, breathed with ease, and passed a tranquil night.

14th. Respiration easy, though irregular; patient more intelligent and lively; — pulse still accelerated; the erysipelas extending; the canula was not changed, but cleansed of the mucus obstructing its orifice. During the night delirium; the 15th, his respiration was still much oppressed, but towards evening the dyspnœa increased, and he died suddenly at 5 o'clock.

AUTOPSY. — Forty hours after death. The part of the face, which was the seat of the erysipelas, was of a pale yellow colour, and hard to the touch.

HEAD. — A small fibrinous clot, and a half spoonful of black blood in the superior longitudinal sinus. The cavity of the arachnoid slightly moistened with serum. Moderate infiltration under the arachnoid, between the circumvolutions at the posterior part of the brain,—the cerebral veins moderately injected. A tablespoonful of serum in each ventricle,— the surface of the gray substance was of its natural firmness and colour, and its central part of a lilac tint—the white substance somewhat dotted at the base of the brain.

NECK. — The velum of the palate, and its arches, as well as the pharynx, infiltrated and swollen. The tonsils presented depressions and elevations caused by a thinning of the mucous membrane, without appreciable ulcerations. The epiglottis and the sub mucous cellular tissue of its folds were œdematous, presenting a yellowish gelatinous appearance, firm, and not to be removed by pressure. The same infiltration, less marked, occurred in the upper part of the larynx, but was again much more marked upon the superior and inferior vocal chords, the tumefaction of which, narrowed the transverse diameter of the larynx, and effaced the interval which forms the opening of the ventricles. On the anterior face of the arytenoid cartilage, was a soft tumour of a pale red colour and unequal surface, composed of a large number of small secondary tumours, resembling venereal vegetations. This tumour, of the size of a small almond, obliterated the posterior half of the glottis, the opening of which was thus contracted in every direction, so as to be only 5 or 6 lines in length, and 1½ lines in its transverse diameter. Immediately above the tumour, on the internal and posterior surface of the cricoid cartilage, was observed a depression of 4 or 5 lines in diameter, with a smooth but irregular surface of a rose colour, presenting round eminences like those noticed on the tumour, and deeper depressions; also two small bands, under which a probe might be passed, and which seemed the result of an old ulcer cicatrized. The probe passed under one of the bands, penetrated to a rough surface formed by the superior border of the cricoid cartilage, which was friable, creaking under the scalpel, eroded and destroyed for the space of two lines between the arytænoid cartilages. This alteration extended forward to the right side, occupying a space varying in depth 5 or 6 lines. The corresponding arytænoid cartilage was detached, and its base partially destroyed. From the eroded surface of the cricoid cartilage proceeded two fistulous passages of the diameter of a quill, smooth on the inner surface, crossing obliquely the muscular layer of the pharynx from above downwards, to terminate an inch below in the cavity of this organ, and in the centre of an ulcerated surface, 6 lines long and 3 wide, the uneven and flattened edges of which were undermined at the lowest part for 2 or 3 lines, so as to form a small cavity containing two fragments of bone of a spongy texture, and of the size of a grain of barley.

The inner surface of the trachea was of a bright red colour, and finely injected, and its aspect contrasted strikingly with the uniformly pale-rose colour, or yellowish tint, of the parts above it. The bronchi were of a rose colour, and their mucous membrane smooth, thin, and of proper consistence. The right pleura contained abouty twenty ounces of serum, mixed with albuminous flakes, the lung on this side was covered with recent false membrane, and reduced to a third of its ordinary size. The lower lobe was weighty, and its tissue of a deep red colour, granulated and softened. The left lung was of its natural size, its tissue somewhat red, particularly at its base, but otherwise natural. There were no traces of tubercles or emphysema.

The pericardium contained about a spoonful of serum; the heart was somewhat softened, but otherwise natural.

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Being now better acquainted with auscultation, my attention was strongly drawn to the circumstance of the total absence of the respiratory murmur on both sides of the chest, coinciding with the natural sound on percussion; and when the autopsy showed the tumour to be situated in the larynx, I immediately called to mind the case I had observed four years before. I at once seized upon the two points which they had in common, namely, the principal lesion, and the symptom we are considering, and I could not help seeing a relation of cause and effect between the obstacle to the free ingress of air into the air tubes, and the absence of the respiratory murmur in the chest; and since that time I have felt myself authorized, in my courses on auscultation, to class this lesion with those which cause a cessation of the vesicular murmur. What I then announced with reserve, and as a proposition founded on two facts only, has since been confirmed by the following case:

CASE III. — *Cough, — emaciation, — One year after the commencement of the disease a sense of uneasiness at the larynx, — dyspnœa, — hoarseness, — aphony, — the sound of the respiration very feeble, — extinct. Death. Destruction of the inferior vocal chords by an ulcer, with tumefaction and projecting edges, — very marked stricture of the larynx.*

GODEFROY JOSEPHINE, aged 39 years, a domestic, of rather feeble constitution, pale and emaciated, was admitted into the Hospital of La Charité, Sept. 14, 1836. Formerly regular in her menstrual periods, she enjoyed habitually good health before her present disease, which was of a year's standing, and commenced with catarrh, which had continued ever since, accompanied with palpitation after exercise. For the same period, appetite impaired; emaciation; and for two months, amenorrhœa. About the middle of December she became sick, with chills, and a feeling of weakness, which confined her to her bed. To these symptoms was added pain in both shoulder blades, and under the right clavicle, with dyspnœa, cough, and expectoration marked with streaks of blood; her voice, formerly clear, became hoarse, and she finally entered the Hospital. Pectoral potions, juleps, and a blister to the neck were prescribed, which means gave no permanent relief; the dyspnœa and the cough persisting, and the hoarseness becoming every day more marked. I did not see the patient until the beginning of January, 1837, when she presented the following symptoms: paleness; emaciation; but little pain in the chest; sensation of uneasiness at the throat; dyspnœa; respiration noisy; cough unfrequent, without much expectoration; hoarseness; chest emaciated but sonorous; respiratory murmur very feeble; frequent palpitations; very little appetite. The feebleness of the respiratory murmur, with the clear sound on percussion, had given the impression that the case was one of pulmonary emphsema, and under this view of it, pectoral potions had been prescribed; but the above-named symptoms increased, and on the 25th January the patient was unable to leave her bed.

She lay with her head and body raised; face pale and anxious; lips of a blueish tint, and her whole body greatly emaciated. She experienced, at the larynx, a feeling of uneasiness, without marked pain, but with great difficulty of deglutition. Her voice was completely lost; respiration very much embarrassed and labouring, 28 a minute. Inspiration gave rise to a very noisy, hoarse sound, followed during expiration by a sort of cooing sound, somewhat less sonorous. Cough, not frequent, but painful, and the patient with difficulty expectorated a few opaque sputa. The chest emaciated but symmetrical, the clavicles prominent, and the intercostal spaces depressed. Percussion elicited a clear and natural sound. *The respiratory murmur exceedingly feeble, almost entirely wanting throughout the chest,* and without rattle. On applying the stethoscope to the larynx, a very marked sonorous sound was heard during inspiration, such as might be produced by a column of air passing rapidly through a narrow orifice. The finger introduced into the throat could discover no tumefaction at the upper part of the larynx. The patient experienced continual palpitation without pain in the region of the heart, which yielded a little less sound than natural on percussion; the sounds of the heart were not changed either in rhythm or tone; the pulse small and regular 104 a minute;

weakness great; appetite gone; tongue somewhat moist, and covered with a dirty white coat; no diarrhœa; urine free; night sweats.

The following day all these symptoms increased in intensity, the features became more and more changed, the anxiety more marked; the dyspnœa constantly on the increase, became finally extreme, and the patient died 3d of February, at ten o'clock at night.

AUTOPSY.—Thirty-six hours after death; dry and cold weather. * * *

NECK.—Externally, under the chin, was a whitish cicatrix, five lines long and two broad. The interior of the pharynx presented nowhere either tumefaction or ulceration. The œsophagus of a pale rose colour, without appreciable alteration. The epiglottis supple, and of a yellowish white colour; the soft parts in front of the larynx sound. In looking into the cavity of the larynx, the glottis was completely closed, and the parts, on distension, would admit an opening only one line and a half broad, and four to five lines long. When opened, the internal surface of the larynx was everywhere pale and smooth, except about the vocal chords. The inferior chords were destroyed on each side, and in their place was observed an unequal and ulcerated surface, about four lines broad, and extending from the anterior portion of the arytænoid cartilages to the angle formed in front by the thyroid cartilage. The whole of this surface was swollen, and its inferior edges ragged and prominent, produced by the ulceration already noticed. The cricoid cartilage was ossified at its centre. The lining membrane of the trachea natural.

CHEST.—The bronchi coated by a moderate quantity of whitish mucus; the internal membrane healthy. Old firm adhesions about the summit of both lungs; the cavity of each pleura contained about an ounce of serum. The upper lobe of both lungs contained a few tubercles, some miliary, others softened, and others again degenerated into chalky concretions. These organs were otherwise healthy.

In this case, as in the preceding, we find an almost complete cessation of the respiratory murmur, without any change in the sound on percussion, and although the lesion of the larynx differed somewhat from that noticed in the preceding case, as respects its complication, I cannot think that the small tubercular masses found in the lungs should prevent us from considering this case as confirming the results furnished by the first two cases. It was not after the *post-mortem* examination only that I thought this fact might be classed with the preceding; I had, from the beginning of January, long before the patient's death, declared the relation which I believed to exist between the *cessation of the respiratory murmur* and an obstacle to the passage of air into the air-tubes; and this symptom, taken in connection with the change of the voice, had induced me to offer as my diagnosis, lesion of the larynx, with diminution of its cavity, and the opening of the body served only to confirm its correctness.

Not the least doubt I think can exist, after what has been adduced, as to the real existence of the phenomenon in question. But the fact would be worth little were it not capable of a practical application. And, in the first place, a knowledge of the intimate relation between the diminution of the respiratory murmur, and some obstruction in the air passages, would have pointed out the necessity of tracheotomy in Case I., nor would it have permitted us to have mistaken Case III. for a pulmonary emphysema, a form of disease beyond the reach of surgery, while an operation might have removed at least the direct effects of an obstruction to the passage of the air through the larynx.

It was a knowledge of this fact, also, that induced me to resort to a very active treatment in Case IV.,* as soon as it entered the hospital. A fact also, which, while it thus possesses the highest value in diagnosis, is, also, of great importance in prognosis, as is well illustrated in the following case:

CASE V. — *Chill, — fever, — sore throat, — dysphagia, — dyspnœa, — change of voice, — false membranes in the pharynx, — continuance of the respiratory murmur, — (favourable prognosis,) — antiphlogistic treatment, — recovery.*

LEGALLOIS MARIE, æt. 36 years, a seamstress, of good constitution, regular in her monthly periods, and enjoying, commonly, good health, had been affected with catarrh about 3 months; when on the 14th of April, while passing along the canal of Valmy, the cold wind blew directly upon her. The following night she felt unwell; and the following morning she was affected with chills, pain in the head and limbs, and was obliged to take to her bed.

On the 16th and 17th, the febrile excitement continued, aggravated towards evening.

On the 18th, she complained of pain in the throat and about the angles of the lower jaw, extending to the ear on either side, and accompanied by difficulty in swallowing, and in the expectoration of mucus.

On the 19th these symptoms were aggravated.

On the 20th the pain had extended to the larynx, the voice had become more changed, and the respiration oppressed.

On the 21st the patient was brought in a carriage to the Clinical Wards; this was her actual condition: Countenance expressing suffering and anxiety;

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* A case of recovery from, probably, acute laryngitis, in which the respiratory murmur was also nearly extinct, but omitted in the translation as containing nothing of particular importance in relation to the present subject. — *Tr.*

face suffused; heat of skin; pulse 108; pain in the throat and submaxillary region, extending to the ears; pain along the larynx; dysphagia; voice almost extinct; difficult expectoration of viscid mucus; slight swelling of the submaxillary ganglions, with tenderness on pressure in this region, and all over the anterior part of the neck; very intense redness of the mucous membranes of the throat, which is covered also, in some parts, by soft, yellowish-white false membranes. In listening to the respiration, *the vesicular murmur was heard with sufficient distinctness in every part of the chest.*

V. S. ℥xiv. Tartar emetic gr. i. Injections. Mercurial frictions to the neck. The tartar emetic produced 7 or 8 returns of vomiting.

The next morning the patient was much better. * * * * She was discharged completely cured on the 7th of May.

In the above case, the intensity of the symptoms, the pain in the larynx, the loss of voice, the existence of patches of lymph in the throat, were sufficient to justify the suspicion that the false membranes had extended to the larynx so as to produce an obstruction in that organ, rendering the danger of suffocation imminent. But as I found the respiratory murmur in its natural condition, both at the time the patient entered the hospital, and at the evening visit, I formed a more favourable opinion. Every succeeding day presented the respiratory murmur in a healthy condition; the prognosis became also more favourable, and the result confirmed the opinion I had formed.

In truth, a correct knowledge of the fact in question, (the condition of the respiratory murmur,) will enable us to predicate the success of the operation for tracheotomy in one case, and its failure in others, and should teach us to resort to it without delay, or to reject it as dangerous, according to circumstances. It is a point then, important to the surgeon as well as to the patient, since, if in one case, it may remove the imminent danger of death, it may also cause useless suffering, or hasten a result which is very apt to be charged entirely to the operator.

Case VI. — On the 19th of June, 1836, being at that time house-surgeon in attendance at the Hospital of La Pitié, I was called about 6 o'clock in the evening, to see a patient in the Ward St. Charles. This woman, 47 years old, of tolerably good constitution, was suffering from intense dyspnœa. The information that I could obtain in relation to the patient was, that she had entered the hospital the evening previous, that she had complained for 5 or 6 days of pain in the throat, and of difficulty in breathing, and that notwithstanding the treatment that had been employed, these symptoms were constantly getting worse. Since the morning visit the dyspnœa had been still progressing; and when I saw the patient she was lying in bed with her head and body much raised, the features altered and expressive of great anxiety, the voice hoarse and weak, the respiration laborious, unequal, and extremely oppressed, so that the danger of suffocation appeared imminent.

Was this a case for the operation of tracheotomy? Before deciding this point, I examined the patient carefully: first, passing my finger backwards to the roof of the tongue, I could discover no projecting ring there. I then listened to the respiration, and I heard, particularly on the left side of the chest, a remarkable sound; a noisy murmur which seemed to originate in the chest itself. This sound appeared to me like what would be caused by strips of membrane loose in the bronchi, and moved about by the passage of the air through these tubes; then remembering that the air must penetrate into the divisions of the bronchi in order to produce this sound, I came to the conclusion that there could be no marked obstruction in the larynx; and that as the dyspnœa was very great, and the voice much affected, the false membranes must extend through nearly the whole of the air passages. As also the absence of a soft ring at the upper portion of the larynx, forbade the idea that œdema of the larynx existed, I came to the conclusion that the case was one of croup, affecting both the larynx and the bronchi.

Satisfied with this opinion, I refused, notwithstanding the solicitations of a friend who was present, to perform the operation of tracheotomy, thinking that the operation could be of no use: but being unwilling to assume the responsibility, I sent for M. Lisfranc, the chief surgeon of the hospital. He arrived an hour afterward, examined the patient, and, knowing that I had paid a good deal of attention to the subject of auscultation, he asked my opinion of the case. I told him that I thought an operation would be of no use, — and gave him my reason. He came to the same conclusion, and decided against the operation. An hour afterward the woman died. The *post-mortem* examination was made by M. Poumet, now hospital *interne*, who examined the parts with great care.

The pharynx, the tonsils, the velum, the nasal fossæ, the œsophagus, were perfectly healthy.

At the base of the tongue, on the left side, was an ulcer, eliptical in shape, from 4 to 6 lines in diameter, superficial, with a grayish base, and abrupt edge.

Commencing with the inferior surface of the epiglottis, the internal surface of the air passages was lined through its whole extent by a continuous false membrane. * * * * * Adhering closely to the internal surface of the epiglottis, from which it could not be detached without being torn, the degree of adhesion diminished gradually from above downwards, so that the false membranes could be separated from the trachea with a little care, while it adhered to the bronchial ramifications only at the point of their division. * * * * * * * * Lying in close contact with the trachea, the false membranes formed a cylinder with a diameter from 21 lines to an inch above the bifurcation. * * * * The pleuræ were without adhesions.

The lungs presented no appearance of tubercles, or of emphysema; the middle lobe of the right lung was slightly inflamed in the first and second degree.

The result of this case and the *post-mortem* examination, fully confirmed the diagnosis and the propriety of the course pursued as to the operation. The extension of the false membranes into the bronchi was established, and the loose way in which they were attached in the smaller tubes, explained satisfactorily the sound heard during life. As to the propriety of the operation, no one can doubt as to its uselessness in such a case, inasmuch as bearing in mind the dimensions of the cylinder formed by the false membrane in the larynx and trachea, it must be evident to every one that the cause of the asphyxia was not there, but in the bronchi.

I will now relate a case in which tracheotomy *was performed without any advantage.*

Case VII.— During the month of December, 1837, M. Landouzy, house-physician in the wards of M. Louis, asked me to visit a woman at Hôtel Dieu, in the wards of M. Landry, who presented the symptoms of very intense dyspnœa and convulsive respiration, threatening suffocation. I applied the stethoscope to the chest of the patient, and *found the respiratory murmur noisy on both sides of the chest, the thorax being sonorous throughout.* Hence I felt myself warranted in saying that there was no obstacle in the larynx, judging from the facts which I had previously observed. This case, on the contrary, seemed to possess something of a spasmodic character. I dared not, however, take upon myself the responsibility of the issue by giving my opinion against an operation. About 2 P.M. M. Danyau, surgeon of the Hôtel Dieu, was called upon, and performed the operation of tracheotomy. *The patient was in no way relieved.* The following day, on *post-mortem* examination, there was found to have been no obstruction whatever in *the air passages.* The larynx, trachea, and bronchi, presented only the redness of inflammation.

But it is not by negative facts only, that I am enabled to establish the important principle, that the absence of the respiratory murmur is the indication for tracheotomy, and in proof of this, I will refer to the following case which I give in all its details, as it is of great practical value.

Case VIII. *Syphilis at the age of* 25 *years,*—*At* 49, *commencement of the disease,* —*dyspnœa,*— *sense of uneasiness at the throat,*— *cough,*— *change of the voice,* — *continual increase of these symptoms,*— *respiratory murmur entirely wanting,*— *threatened suffocation.*— *Tracheotomy,*— *instantaneous relief,*— *restoration to health.*

April 17th, 1837. Halé, aged 49 years, formerly a soldier, of good constitution, and somewhat florid complexion, was admitted into the Hospital of La Charité. For a year past, he had charge of a machine for shearing sheep; being well nourished, and leading a regular life, he was habitually in the enjoyment of good health, and had never any other disease than a gonorrhœa at the age of 25, with chancres on the penis, which were treated with pills of a composition unknown to him, and which cured him in six weeks, during and since which time, there had supervened no chancre nor pain in the throat. His present disease dates from October, 1836. It commenced gradually, without any known cause, and without pain; with catarrh and cold in the head, attended with a little dyspnœa and expectoration. A month afterwards he experienced a sensation of uneasiness in the throat, accompanied by cough, some hoarseness, slight difficulty in swallowing, with increase of dyspnœa.

These symptoms continuing to increase, the patient entered Hôtel Dieu, for the first time, in February, 1837. His voice at that time, was hoarse and almost extinct.

He left the Hospital relieved, after a stay of three weeks, during which time he had been treated by venesection, five applications of leeches to the larynx, pediluvia and mercurial frictions, but his symptoms soon re-appeared with some aggravation, and obliged him to return to the hospital, April 17.

The next day he was found in the following state: Decubitus easiest on the right side, expression of anxiety; violet tint of the lips and nose. No œdema, uneasy feeling at the larynx, as if the air was partially obstructed; voice hoarse and slightly hissing; considerable dyspnœa which he referred to the larynx, more marked in inspiration than in expiration. Respiration noisy and hissing, even at a distance, especially during inspiration. Cough sonorous and hissing, attended with slightly opaque mucous expectoration.

On inspection, no tumefaction apparent in the throat; no deformity of the chest.

The touch discovered no tumour on the exterior of the neck; the finger passed into the throat, did not feel any swelling or œdema.

On percussion, no sensible change in the sound of the chest. *On auscultation* of the larynx, a very noisy respiratory murmur was heard, stronger in inspiration than in expiration, *while the chest, on the contrary, furnished neither in front nor behind, any trace of the vesicular murmur;* a slight resonance of the sounds in the larynx, somewhat more marked at the upper part of the right lung was all that was heard,—nothing unnatural about the heart; the pulse of moderate strength, regular, 92 a minute; heat natural; no disturbance in the other functions. Demulcent drinks; 15 leeches to the larynx; emollient cataplasms; fumigations of marsh mallows; soup and broth.

The leeches were applied about noon, and drew well; about 2 o'clock the patient attempted to inhale the fumigations, but was soon so much oppressed as to be obliged to discontinue them.

The suffocation increased with frightful rapidity, and at 3 o'clock he was found in the following state: Countenance expressive of extreme anxiety, pale; expression of the features greatly changed; eyes prominent, seeming to seek relief; patient very restless, sitting up with an inclination forward, made signs that he was suffocating, and that he should be bled. Voice extinct;

respiration very laborious; inspiration attended with a sort of cooing sound heard in every part of the ward; expiration also very noisy; pulse small and hurried. Suffocation seemed imminent and tracheotomy instantly called for. M. Velpeau was sent for, and in the meantime, I ordered a pediluvium with mustard, and arranged the instruments in readiness to operate in case M. Velpeau should not be found. In half an hour, however, he arrived, and the patient eagerly submitted to the operation.

The soft parts in front of the trachea were cut from above downwards in the median line, from the inferior part of the larynx to the sternum. No artery was opened, but the wound furnished a large quantity of venous blood. Without waiting for the flow to cease, the operator made an incision which opened the trachea for 5 or 6 lines above the sternum, which was then prolonged to near the cricoid cartilage.

Immediately on opening the trachea a hissing sound was heard; a small quantity of blood entered the air tube, from which the patient experienced sensible inconvenience, but a few strong and convulsive expirations immediately expelled it, mingled with mucus, against the face of the operator and his assistants. But in a moment or two, a silver canula, at about 4 lines in diameter being introduced, the patient became more calm, and his features more animated; he expressed manifest relief by smiling and by signs, for he had lost the power of speech. The noisy cooing sound attending the respiration ceased, and only a trifling sound was heard, caused by air entering and escaping from the canula; the pulse rose, the patient became tranquil, and from time to time, expelled through the canula, by means of a quick expiration, equivalent to a cough without resonance, mucus streaked with blood. The flow of blood soon ceased.

An hour after the operation the countenance of the patient expressed content. His gestures gave token that he was comfortable. His countenance recovered somewhat its colour, the respiration became sufficiently easy and regular; 28 inspirations per minute; pulse 124, of moderate force and regular. The patient could not recollect the introduction of the canula, but its presence occasioned no uneasiness. The remainder of the evening and night were passed tolerably well, but without sleep.

19th, in the morning. The patient in bed with head slightly raised, was tranquil, and had an expression of calmness and confidence; felt only slight pain in the throat; voice extinct, but when the finger was placed on the opening of the canula, he spoke in a low and hoarse but intelligible tone. Deglutition somewhat impeded; a slight sensation of tumefaction at the bottom of the throat, and liquids passed with some difficulty. The oppression complained of previous to the operation had disappeared; respiration unembarrassed, regular, and equal. The air passed, according to the patient's account, solely through the canula, at the orifice of which a slight sound was produced in expiration and inspiration. The respiration was occasionally difficult, when mucus obstructed the canula, but as soon as it was expelled by a strong and quick expiration, it became more free and easy. These expirations supplied the place of a cough, and expelled, from time to time, thick mucus but little aërated, like that occasioned by a cold in the head, and of a red tint, but not so deep a colour as that of the preceding evening. A slight erythematous redness surrounded the wound, which insensibly disappeared at one or two inches from its edges. At the larynx, a slight sound was occasionally heard on auscultation, more marked in expiration, and which seemed to take place at the orifice of the canula. * *

On auscultation of the chest, *a very marked respiratory murmur was heard in every part*, which was purer and more distinct as the canula was free from obstruction; mixed occasionally with a sonorous ronchus, and some mucous rattle, which disappeared when the patient expelled by strong and quick expirations the mucus in the canula and air-tubes. In other respects he experienced only slight head-ache and dizziness when he sat up,—sight good; no ringing sound in the ears; pulse regular, and fuller than on the preceding evening, 112; no palpitation of the heart; thirst moderate; no appetite; demulcent drinks, a bottle of Seidlitz water. Pectoral juleps; venesection ad ℥xij.; broth as nourishment. The canula was from time to time cleansed. He passed a good day, and slept about two hours during the night.

20th, in the morning. Expression of the countenance almost natural. The patient complained of pain only about the edge of the wound. He still experienced a sense of tumefaction in the throat, and a little difficulty in swallowing,—was scarcely conscious of the presence of the canula in the trachea. Respiration easy, occasionally embarrassed from the same cause as on the preceding evening; equal and regular, 24 a minute. During the last 24 hours the patient expelled from the mouth about two ounces of a dirty white liquid. Auscultations of the larynx and trachea gave precisely the same results as the day previous. Still some difficulty about the head, without ringing in the ears; no appetite; three stools in the last 24 hours; pulse regular and of moderate force, 92; heat natural. The blood drawn the day previous presented the buffy coat. (Demulcent drinks; pectoral potion; astringent gargle of water ℥iv. alum ʒj.; broth.) Towards 4 in the afternoon, the patient having loosened by his motions the strings which kept the canula in place, the instrument was forced out by an expiration. Being immediately summoned to the patient, and finding the canula nearly expelled, I withdrew it entirely for the purpose of cleansing it. During this time the patient breathed equally well through the aperture in the trachea. On replacing the canula the patient breathed perfectly, and I heard, on auscultation, a very strong pulmonary expansion in every part, a soft and puerile respiration, unattended with any rattle.

From the 21st to 30th, the patient continued in this improved state. The voice, on stopping the canula, was more distinctly heard. No embarrassment in swallowing; the respiration always easy, regular, and constantly at 24 inspirations a minute. While the canula was open no air passed through the larynx, but on closing it a small quantity traversed the natural passage; very little sound took place at the orifice of the instrument, and that little was scarcely audible when the canula was well cleansed. The cough diminished in frequency, the expectoration became less and less abundant, assuming a greenish hue, and becoming more opaque, as at the close of pulmonary catarrh; the tumefaction gradually subsided about the lips of the wound, which became covered with granulations very much disposed to contract, so that if the canula was for a few minutes removed, much difficulty occurred in replacing it; the erythematous redness, above alluded to, disappeared after the 22d.

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On applying the ear to the chest, 1st, with the canula in its place and open; the vesicular murmur was heard naturally in every part, strongly marked in proportion to the freedom of the canula from any obstruction, and mingled occasionally with a sonorous rattle, which disappeared after the expulsion of mucus. 2d, When the canula was removed and the wound open, the natural respiratory murmur was distinctly heard without being very strong, attended at times with a sonorous ronchus.

If the orifice of the wound was covered with a bit of adhesive plaster finely perforated, the respiratory murmur was very feebly heard, but became more evident when the obstacle was removed. Finally, when the wound was perfectly closed *no evident trace of the respiratory sound was perceived*, but simply, from time to time, a little sonorous ronchus. The pulse, during the time, was constantly regular and soft, varying from 74 to 78 a minute. The appetite improved gradually, the sensation of weight about the head which, since the 22d, had been felt only in the evening, had entirely disappeared on the 25th, and the patient slept 6 or 7 hours each night, in successive naps. The canula was changed daily. The demulcent drinks, pectoral potion, and the astringent gargle were still continued, with an occasional bottle of Seidlitz water. The quantity of food was gradually increased. On the 27th the gargle was omitted, and mercurial frictions employed on the lateral parts of the larynx, (3i. daily): these were replaced on the 29th by a large blister on the side of the neck.

On May 2d it was noted, that for several days the patient had experienced a trifling oppression in breathing towards evening, and that the canula, which had been introduced in the morning, produced a distinct hissing sound. On withdrawing the instrument, it was found that the end corresponding to the trachea was much obstructed with thick mucus — as soon as a new canula was introduced the hissing sound ceased and the respiration became easy; after this the canula was introduced twice a day, and the dyspnœa did not return.

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On the 8th of May the patient began to use a stopper in the canula — the first day it was retained 4 hours.

* * *

From the first of June no new symptoms appeared; and the patient, feeling well in every respect, was anxious to resume his occupation, and for this purpose he left the hospital on the 14th of the month. Still complaining of some hoarseness, and of dyspnœa in ascending stairs, and with the respiratory murmur less distinct than natural. As the canula caused no inconvenience, and the feebleness of the respiratory murmur proved that the larynx was not yet perfectly free from obstruction, he was advised to wear it for fear the dyspnœa might increase.

In fact the patient, who returned to his occupation, was attacked on the 25th June with a progressive dyspnœa: but as soon as the oppression became too great, he had only to withdraw the stopper from the canula; then he could breathe freely through this passage until, by treatment, the natural passage was again made free. At the present time he still wears the canula. When I last saw him in May, 1838, there still remained some hoarseness and dyspnœa, and as his occupation exposed him to the inhalation of dust, he was advised to change it for a more healthy one.

The above case is important in several particulars: I will, however, only allude to such as relate to the point we are now studying. In the first place, we noticed an almost total absence of the respiratory murmur on both sides of the chest, with a natural resonance on percussion: this fact, taken in connection with others already known, would prevent us from mistaking this for a case of pulmonary emphysema, and would enable us to say with certainty that there was some obstruction in the air passages. But where was the precise situation of this obstruction? This was a very important question to decide at the moment of threatening suffocation. The natural clearness on percussion, the absence of bronchial respiration, of any unnatural resonance of the voice, of any rumbling sound (*ronflement*) in the chest, prove clearly that there existed neither condensation of the pulmonary tissue, nor pleuritic effusion, nor false membranes in the bronchi. At the same time that the change in the voice, the pain in the larynx, pointed to that organ as the seat of the difficulty. The absence of all pain in the course of the trachea would seem to indicate that the disease was confined to the upper portion of the tube. Having established this point, I was induced to fear, from the great feebleness of the respiratory murmur when the patient entered the hospital, that the contraction was already very great, and that the danger of suffocation would compel me to have recourse to tracheotomy. But, at the same time, the results of auscultation gave me every reason to think that the operation would succeed, and I should have practised it without hesitation had not M. Velpeau arrived. The result proved that I was right. But the advantages of auscultation were not confined to the immediate success of the operation. It indicated to some extent, even without the aid of the dyspnœa, the degree to which the canula is obstructed, and warned us to use means to counteract its bad effects. Again, the *return* of the respiratory murmur indicated, from day to day, the diminution of the obstruction to the free passage of the air, and that at the time the patient left the hospital, this obstruction was not entirely removed.

From the preceding cases, I think we may draw the following deductions:

1st. The vesicular murmur of respiration may be diminished or abolished on both sides of the chest, by any lesion capable of narrowing the cavity of the upper portion of the air passages, thus causing the air to arrive with less facility into the bronchi and producing feeble vibrations: or causing this fluid to reach the bronchi in smaller quantity; or by not permitting it to reach at all the periphery of the lung.

These lesions may occupy any part of the wind-pipe, but the glottis is by far the most frequent seat of them.

They may produce their effect either by narrowing or obstructing the air-tubes, by closing their upper orifice, or by compressing them from without inwards.

Of this character are syphilitic vegetations, (Case II.) various tumóurs, (Case I.) tubercular ulcerations with projecting edges, and thickening of the submucus tissues, œdematous swellings, and considerable tumefaction of the tonsils, (Case IV.) Of this character also are polypi, in all probability, though experience has not yet furnished me with proof of it; such as occupy the nasal fossæ, and project into the pharynx, polypi of the trachea, foreign bodies in the air passages, tumours of various kinds which compress the trachea, or project into its cavity through an ulceration in its coats.

The knowledge of this fact is of the greatest utility in the diagnosis and treatment of certain affections of the respiratory organs.

In fact, as many of the above named lesions cannot be ascertained either by the sight or touch, as even œdema of the glottis may exist and the finger be unable to detect it; many of these affections might thus become confounded with pulmonary emphysema, and patients suffered to die without assistance, when a more accurate diagnosis would have saved them by indicating the operation of tracheotomy.

Again, the continuance or cessation of the respiratory murmur will prevent the confounding spasmodic suffocation with œdema or other mechanical obstruction, (Case VII.) and thus guard against the useless performance of a severe operation.

In the case of a foreign body in the air passages, we may, moreover, determine its precise position, whether in the trachea, or one or other of the bronchi, accordingly as the respiration is diminished on both sides of the chest, or on the right or left side only, — an important decision, as respects the propriety of tracheotomy, and the place for operating.

Finally, in case of croup, would not the simple diminution of the respiratory murmur, and the existence of the peculiar sound noted above, (Case VI.) indicate whether the false membranes were limited to the larynx, or had extended into the bronchi, and thus establish the propriety or impropriety of tracheotomy?

2d. The degree of diminution of the respiratory murmur is the measure of the degree of obstruction; another fact of much importance in prognosis and treatment. Thus in certain apparently severe cases, as of plastic angina, the greater or less distinctness of the respiratory murmur will show that the danger is not really great. The hope of a happy termination may be entertained as long as this murmur continues strong.

On the other hand, a feeble respiratory murmur will render the prognosis unfavourable, for the patient is threatened with suffocation. *Thus then the activity of the treatment must be proportioned to the indistinctness of the vesicular murmur, which will, even alone, sometimes indicate the necessity of tracheotomy.*

REVIEWS

AND

BIBLIOGRAPHIC NOTICES.

I. *Maladies des Enfans. Affections de Poitrine. Première Partie.* PNEUMONIE. Par M. M. RILLIET and BARTHEZ. (A Treatise on the Pneumonia of Children.) Paris, 1838. 8vo. pp. 232.

II. *A Treatise on Diseases of the Chest, and on Mediate Auscultation.* By R. T. H. LAENNEC, M.D. Translated from the third French edition. By JOHN FORBES, M.D., F.R.S. *To which is added the Notes of Professor Andral.* Translated and accompanied with Observations on Cerebral Auscultation. By JOHN D. FISHER, M.D. New-York, Samuel S. and Wm. Wood, 1838. 8vo. pp. 782.

III. *An Elementary Treatise on Auscultation and Percussion, or the Application of Acoustics to the Diagnosis of Diseases. With a Synoptical Table.* By A. RACIBORSKI, M.D. Translated, with Notes, by MINTURN POST, M.D. New-York, Collins, Keese & Co. 1839. 8vo. pp. 261.

A NEW work on the Pneumonia of Children, purporting to be founded on clinical and *post-mortem* examination, was welcomed by us with great pleasure, and an attentive perusal of it has not, on the whole, disappointed our expectations. The professed treatises on the diseases of children contain almost nothing of value on this subject; the latest we have seen, that of Drs. Evanson and Maunsell, despatches the whole matter in less than two pages; but even that little is enough to convince us of the small degree of practical information the authors possess on the subject. The only really valuable essays on the pneumonia of children we have ever yet met with in our own language, are those of Dr. Gerhard of Philadelphia, published in the American Journal of Medical Sciences for 1834–5. These essays, although evidently the result of much observation, are yet imperfect in some important particulars. This author observed the disease in the Children's Hospital of Paris, among the squalid and impoverished offspring of the lower classes, and often only at a late period in its progress; hence Dr. Gerhard saw only its more chronic form.* He gives us no account of that rapidly fatal pneumonia which we have seen run its course in forty-eight hours; which, so far from attacking the feeble, and those suffering from previous disease, seizes upon those in perfect health, and crushes them by its sudden violence.

We are indebted to M. M. Rilliet and Barthez for having pointed out this distinction in the pneumonia of children; a distinction the more important because nothing of the kind exists in the adult. The work we are examining is based upon these facts:

> "*The cases of pneumonia which occur during the progress of some chronic disease, assume, also, the chronic form. This is peculiar to children under six years of age.*"
>
> "*The cases, on the contrary, which occur in children while in good health, or during some acute disease, assume the acute form.*"

Thus a child who has been suffering from a long-continued diarrhœa, the consequence of dentition, or from the debility and derangement of the general health that not unfrequently follows measles, smallpox, or scarlatina, will be attacked by a pneumonia which will develope itself slowly, and with very few well-marked symptoms, and continue two, three, or four months, before its termination. Another child in perfect health, or suffering under an actual attack of measles, &c., will be suddenly seized, will present the most marked constitutional and other symptoms, and die in a few days, presenting, on *post-mortem* examination, as extensive pulmonary inflammation as the former case.

This important practical distinction being then established, let us go on with M. M. Rilliet and Barthez, and begin, as every one must, who aims to attain to a positive knowledge of disease, with the morbid anatomy of the pneumonia of children. It is generally believed that this disease attacks separate lobules of the lung; so that, instead of finding evidences of inflammation over a continuous surface, as in the adult, we discover small indurated masses in different portions of the pulmonary tissue, which, when examined, prove to be distinct lobules, surrounded by other lobules, free from, or much less affected by, inflammation; although in advanced cases of the disease, when the inflamed lobules are multiplied, this primary disposition is no longer recognised with ease, and constituting the "lobular pneumonia generalized" of the authors before us. They, however, do not admit that the disease in young children always assumes this primary form, although they admit its frequency at this period. Thus, in twenty-four cases of lobular pneumonia, twenty-two were under the age of six years; in fourteen cases of lobar pneumonia, seven were under this age. It would then appear, that while the lobular form is seldom found after the fifth year, the lobar form, resembling that noticed in the adult, is met with in a very considerable proportion of cases. The observations of M. Valleix, at the Foundling Hospital of Paris, on new-born children, confirm entirely this fact. There is, however, no real difference in the nature of these two forms of the disease, although it is important to remember that the lobular form is frequently latent at its commencement, owing to the uncertainty of the physical signs on which, as we shall soon see, the diagnosis is principally founded. The following is the author's description of the morbid appearances in the lobular pneumonia:

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* We refer here, and also in our subsequent remarks, to Dr. Gerhard's second essay, or that on the Pneumonia of Children *under six years of age.* Indeed, this is a capital distinction; for, after this period, the disease commonly resembles that of adults.

> "The exterior of the lung is generally soft and flaccid, its general colour is a more or less marked grayish-rose, but in different parts are to be noticed circumscribed prominent spots, of a violet-red colour, which are firm when pressed by the fingers. These spots are commonly circular, but sometimes elongated, especially from above downward, and are commonly found in the posterior half of the lung, although they are sometimes observed in other portions of the organ. In some cases they do not appear externally, but, in pressing the lung, the indurated masses are felt, situated more or less deeply below the surface."
>
> "If we make an incision in the lung, the cut surface appears marbled with spots of a grayish-rose and of a deep violet colour. It is evident that the dark spots noticed upon the external surface of the lung penetrates its substance, and that they, as well as others which are situated in the central portions of the organ, are the result of an inflammatory action, differing, in no material respect, from that affecting the same tissue in the adult, equally presenting a smooth surface when cut, a granulated surface when torn, being friable, and sinking in water."

Like the pneumonia of the adult, it presents three distinct stages:

> "In the first stage, the cut surface of the lung is marbled with spots of a grayish-rose and red colour; these red spots are more or less circumscribed, and are rather more easily torn than the healthy tissue; but floating in water, yielding, when pressed, an aërated liquid, and still crepitating."

"The second stage is that most commonly met with, and is that already described as resembling the hepatization of adults."

The third stage, or that of suppuration, might easily be overlooked in the *post-mortem* examination, especially when the inflamed spots that have passed into the third stage are small; the substance of the lung has regained the grayish colour which belongs to its healthy state, so that, if it requires attention to recognise the second stage, where the change of colour in the portions affected is distinct, how much more difficult must it be to distinguish a lesion in which this important distinction is wanting. But, by close attention, some lobules will be observed more prominent than the rest, instead of being flaccid, like those around them; and, on pressing them, they discharge a purulent fluid."

In certain cases, even abscesses may form:

"If the lobular pneumonia has passed into the stage of suppuration, and to the formation of abscesses, the cut surface of the lung will present cavities varying in size from a hemp seed to that of a large pea; these are filled with pus, which is sometimes mixed with clots of blood. Sometimes they communicate with the bronchi, and sometimes they do not."

Suppuration in this form of disease has been generally regarded by pathologists as of very rare occurrence, yet our authors have met with it eleven times in forty-three cases, and principally, if not constantly, as a consequence of the lobular form. The possibility of the fact we have established by our own dissection. In a recent case, occurring in a child ten months old, and who died on the 15th day of the disease, the whole upper and middle lobe of the right lung was found in a state of commencing suppuration. There can be no doubt, however, that this condition of the lung is of rare occurrence. The acute form is too rapidly fatal in its progress, and the chronic possessed of too little of the active inflammatory character, to permit its developement.

There are two other forms of pulmonary inflammation described by our authors. The first appears to be the most simple form of inflammation of the air-cells:

"The lung, examined externally, is soft and flaccid; when cut, it presents a large number of granulations, about the size of a millet seed, and of a yellowish-gray colour. At first sight they might be mistaken for miliary tubercles, equal in size, and scattered through the substance of the lung; but this error is easily corrected, for the two kinds of granulations differ as widely in their physical properties as in their real nature. The crude tubercle is firm and solid, the granulations the result of inflammation contain a fluid, and when cut, discharge a drop of purulent matter."

Another condition of the lung, remote from the preceding, is called by our authors, carnification:

> "The lung, in this condition, is soft, flaccid, and shrunken; of a violet colour, and marked with whitish lines, which indicate the divisions of the lobules; it does not crepitate on pressure. When cut, it presents a red and smooth surface; it is not very friable. When pressed, it discharges a bloody unaërated serum. It resembles very much, in appearance, the more compact muscular tissue."

The nature of this change in the structure of the lung is not well understood. M. M. Rilliet and Barthez are disposed to regard it as the consequence of chronic inflammation.

It is, we believe, the common opinion among pathologists, that inflammation of the pleura rarely exists as a complication in the pneumonia of young children. Dr. Gerhard insists particularly on this point, and M. Valleix, in his recent work, confirms this opinion. We all know how common this complication is in the pneumonia of adults. According to M. M. Rilliet and Barthez, the pleura was found unaffected in only ten cases. Signs of acute pleurisy even existed in one-third of the children from two to five years of age.

Dilatation of the bronchi was also noticed in a considerable proportion of the cases, a condition, according to our authors, probably dependent upon the mechanical distension of these tubes by mucus.

Inflammation of the bronchi, to any appreciable degree, is not common in the pneumonia of young children. At all events, it is difficult, according to our authors, to assure ourselves of it by *post-mortem* examination. We have noticed this fact: in cases where the disease had assumed the chronic form, the bronchi, so far as they could be examined, even those passing directly into the inflamed portion of the lung, are found natural in appearance. In the acute form, the bronchial tubes, and even the trachea, are found to have been much inflamed.

There is one other class of lesions too important, as well as frequent, considered in connection with the pneumonia of young children, to be passed by without notice, and this is the inflammatory and other affections of the mucous membrane of the intestinal canal, especially of the large intestines.

> "The mucous membrane of the intestinal canal was found so often diseased, that it could be regarded as healthy in only 9 of the 43 cases. In most of them, especially where the large intestines were affected, the changes were of a chronic character, and consequently of older date than the pneumonia."

The third chapter is devoted to the consideration of the *physical signs* of pneumonia in children. This is unquestionably the most important portion of the whole subject, and it is to be regretted that M. M. Rilliet and Barthez in their wish to be accurate, have gone beyond this point by indulging in refinements which are of no practical value. It is the opinion of some authors who have written upon the diseases of children, that no great benefit can be derived from auscultation in their diagnosis. This opinion is partly true, but in a greater degree is false. Every one in the habit of studying the physical condition of the chest in young children, must know how difficult a thing it sometimes is to keep them sufficiently quiet to permit a careful examination. An examination conducted by force, amid cries and struggles, can lead to no definite results. On the other hand, every one must have noticed when the child is quiet, in how well marked a form all the physical signs present themselves — that the modifications of the sound on percussion, and of the respiration, are both more distinct than in the adult. We must, then, make this important distinction, and admit the fact, that actual organic changes in the pulmonary tissue, reveal themselves as distinctly in children as in adults, when the circumstances are equally favourable for a careful examination.

We have already remarked that our authors had refined too much in this portion of their work. The following is a summary of their opinions in relation to the physical signs:

> " *In lobular pneumonia:* mucous or subcrepitant rattle mixed at times with a very dry rattle; harsh respiration; expiration prolonged or bronchial; clearness on percussion."
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> " *In lobular pneumonia that has become generalized:* mucous or subcrepitant rattle with bronchial respiration over a considerable surface, or extending rapidly; flatness on percussion."
>
> " *In lobar pneumonia,* (i. e. inflammation extending over a continuous surface as in the adult:) crepitant or subcrepitant rattle; bronchial respiration; flatness on percussion."

It appears to us in reviewing this part of the subject, that the only clear and unequivocal signs of pneumonia, are such as result directly from obstruction of the pulmonary tissue, viz.: flatness and bronchial respiration; except in the small proportion of cases where the true crepitant rattle is noticed. It is true that the peculiar form the disease is so apt to assume in young children, the lobular pneumonia, may sometimes prevent an early diagnosis: for a few inflamed lobules, surrounded by a healthy tissue, would hardly produce either of the above signs. Our authors are, however, of opinion that the physical diagnosis can be established before they occur; and in this we think they have advanced a step too far. The attempt to found the diagnosis upon the existence of a mucous or subcrepitant rattle is what we particularly have in view. These rattles existing on both sides of the chest behind, accompanied by clearness on percussion, are unquestionably an evidence of simple bronchitis in adults, and probably also in children. That bronchial respiration and flatness sometimes succeed to these is very true. Indeed, nothing is better known than that pneumonia sometimes succeeds to bronchitis, but these are exceptional cases, and not the general rule. A mucous or subcrepitant rattle existing *in one lung* is a more important sign, inasmuch as these rattles in bronchitis are *always found on both sides*. But it would appear, from an examination of numerous cases, that the pneumonia of children is frequently double, more often, at least, than that of adults: hence a subcrepitant rattle, on one side, indicating the formative stage of pneumonia must be a comparatively rare occurrence. Again, can we derive any indication from the crepitant rattle which in adults is so characteristic of the early stage of this disease? According to Dr. Gerhard this rattle seldom or never occurs in children under six years of age. We have long known this to be an error, having not unfrequently heard it. M. M. Rilliet and Barthez also contradict this statement, since it was noted by them nine times among the younger children, and always at the same time with the bronchial respiration, except in three cases. This rattle then even when heard alone in the early stage of the disease and can leave no doubt of the existence of a pneumonia.

We have remarked, also, that the bronchial respiration is the only modification of the vesicular murmur that can clearly indicate the existence of pneumonia. Our authors contend that there are earlier changes which can be recognised — as a harsh respiration and a prolonged expiration, unaccompanied by flatness on percussion: these are probably refinements which, when they exist, may lead to the suspicion that pneumonia also exists to a small extent, — nothing more. But we are now speaking of the positive signs of disease. The flatness on percussion is the next of these positive signs, appearing to us to accompany the bronchial respiration in degree and extent, except in certain cases of great condensation of the pulmonary tissue, where the respiration ceases entirely, from a complete obliteration of the bronchi. But it is important to remark here, that flatness on percussion and bronchial respiration, taken by themselves, do not necessarily point out the existence of pneumonia, but simply the condensation of the pulmonary tissue, from a deposit into the substance of the organ obliterating the air-cells. In all these cases, there are points to study beyond the mere recognition of certain sounds which form but the mechanical part of the science of auscultation. The precise seat of the disease, the rapidity of its developement, its accompanying symptoms, are all points of the highest importance to a perfect diagnosis. We would here only remark, that numerous dissections have shown that in children, pneumonia affects the posterior half of the lung, and generally, even in the lobular form, the inferior rather than the superior portion; but to this latter position there are exceptions;—pneumonia, commencing in the superior portion of the lung, is probably more common in young children than in adults.

According to the statement of Dr. Gerhard, the pneumonia of young children is commonly double, commencing in both lungs about the same time. This statement is true as to the anatomical fact, although less generally so than Dr. G. supposes: but dissection commonly presents the disease more advanced in one lung than in the other, proving clearly that both did not become affected at the same time. The importance of this fact, both in the early diagnosis of the disease, and at a later period, is too clear to require comment.

The next subject that occupies the attention of our authors, is an examination of the *rational signs* of the disease. They justly remark that there is nothing in the countenance of young children characteristic of pneumonia, although there commonly is abundant proof of obstructed circulation, indicated by a dilatation of the alæ nasi before inspiration. They might also have noticed, we think with propriety, the mingled paleness and lividity of the countenance — lividity especially of the lips and eyelids, which is so often present in the later stage of the disease.

"The pulse was always counted: it was rarely below 120, and in the youngest children it varied from 140 — 150 — 180. In children from the age of 6 to 15 years, it was much less accelerated, rarely reaching 140: but on the day of the attack it was commonly 120."

"In most cases, at the commencement of the disease, it presented nothing peculiar in its character. It was commonly full and regular in children between the age of 2 and 5 years. A day or two before death it became extremely small, and sometimes nearly imperceptible."

"The number of inspirations in children from 2 to 5 years old, varied from 30 to 80 a minute; in those who were older, from 6 to 15 years, it varied from 24 to 68 a minute. In one half of the cases, the respiration presented no other change than this increased frequency; in the remainder, without regard to age, we noticed the following: in some cases it was expressive of anxiety, very full, elevating the whole thorax; in other cases it was abdominal: again it was irregular and unequal; finally, in some cases, the inspiration was natural, but the expiration was difficult, attended by an effort."

Our authors remark that they have generally found the acceleration of the pulse and of the respiration, to be proportioned to each other, and to the extent and violence of the local disease, but this does not apply to complicated cases, or to the later period of the disease.

The cough was absent in two cases, and in the remainder it was trifling.

In more than one-half of the cases it was infrequent, almost always it was dry. In children from 2 to 4 years of age, it always *preceded* the evidences of pneumonia by several (8) days. In the older children the cough and the symptoms of pneumonia commenced together.

It is important to observe in the diagnosis the difference between this dry and trifling cough, — and the loud, frequent, moist cough of common bronchitis.

Expectoration was noticed only four times in the children between the age of 2 and 5 years; in none of these cases was it characteristic.

It is very difficult to ascertain whether children actually suffer from pain in the thorax.

Considering the comparative rarity of pleural inflammation in such cases, it is probably seldom present.

The position which young children assumed in bed was noticed, — they commonly lay upon the back, or indifferently on either side.

> "The functions of the respiration and of the circulation were not alone affected. The nervous system which is so subject to impressions in children, sympathized with the principal disease in two-thirds of the cases among the younger class of children, and in one-half of those from 6 to 15 years of age. Among the former class the most frequent symptom was restlessness, which was sometimes extremely marked, and which commonly accompanied the earlier symptoms of the disease, but seldom continued through its whole progress: this symptom was generally marked in proportion to the extent of the disease. Other patients, instead of exhibiting this restlessness, became oppressed with drowsiness and stupor. In two of these cases, the patients were attacked while in good health and the hepatization affected an entire lobe of one lung."
>
> "The patients from 6 to 15 years of age, and particularly those among the youngest of this class sometimes exhibited an extreme degree of restlessness or even delirium. In other cases, where the pneumonia existed as a complication, we noticed a great loss of strength, vertigo, &c."

More than three-quarters of the patients between the age of 2 and 5 years, presented some derangement of the digestive organs. Most commonly they had diarrhœa: this was trifling in some cases, and abundant in others. It was frequently during its progress that the pneumonia supervened. The abdomen was soft upon pressure, and with or without tumidity. The tongue was commonly moist and frequently covered with a white or yellowish coat. Vomiting rarely occurred, and in the more chronic cases the appetite continued: but in the acute cases it was entirely lost, and the thirst was excessive. In the older class of children the condition of the digestive organs did not materially differ from what is commonly noticed in the pneumonia of adults.

We have already alluded to the important distinction introduced by our authors in their description of the pneumonia of young children. The more protracted form so well described by Dr. Gerhard, and the acute form of which this author has made no mention. After the review we have already given of the principal anatomical features of the disease, and of the individual symptoms considered independently of their connection with each other, it will be well we think to present to the reader a *tableau* of the disease as it appears under the two forms noticed above.

1. "The more *chronic form* is peculiar to the youngest children. It commonly supervenes to a chronic enteritis, a very frequent disease in young children. Sometimes it makes its appearance after an attack of one of the eruptive fevers, but a long time after the eruption has disappeared. Occurring in children whose constitutions have been already impaired by disease, it does not discover itself by any very strongly-marked symptoms. The cough is not frequent,—in some cases it is entirely wanting; there is no pain in the chest, no expectoration; the skin is pale and cold, the face and extremities œdematous. When, however, the disease is more advanced and the lung is more generally affected, reaction commonly ensues, the skin becomes warm, the pulse and respiration accelerated."

"The disease would often continue completely latent, did not auscultation come to our aid, and disclose to us the physical signs of pneumonia, which we have already enumerated and which it is unnecessary to repeat."

"Notwithstanding the diarrhœa which is commonly profuse, the appetite often remains good and the thirst is not increased; the skin sometimes becomes covered with biles and spots of ecchymosis, ulcerations appear either upon the sacrum or upon the surfaces, that have been blistered; the emaciation constantly progresses, and the child finally dies in the last stage of marasmus. The progress of this form of the disease is slow, but its actual duration cannot be easily ascertained."

II. "The *acute form* attacks children in perfect health, or during the progress of some other acute disease. It exhibits the same features in children from two to four years of age. In those who are older, from five to fifteen years, it becomes somewhat modified in its progress."

"In the younger children it presents two well-marked periods. The first of these may be called the catarrhal, the second the inflammatory. The duration of the first varies very much; still we can always recognise its existence. We notice a cough, which is commonly not severe, and some slight changes in the respiratory murmur; a sibilant or sonorous rhonchus, a mucous rattle, &c., but no acceleration of the pulse or of the respiration; the appetite remains good; the child continues its sports; but, after a time, the pulse and the respiration become suddenly accelerated, the skin hot, the alæ nasi much dilated, the countenance anxious. In some cases there is great restlessness, in other cases, on the contrary, there is a disposition to stupor. If auscultation be resorted to at this period, we discover nothing but a feeble respiration, or a subcrepitant rattle—there is no flatness on percussion: but, after a time, the expiration becomes prolonged, and soon a well-marked bronchial respiration ensues accompanied by flatness; the constitutional symptoms continuing unabated so long as the disease is progressing."

"As the disease approaches its fatal termination, the pulse and the respiration become irregular, the former losing its force and becoming extremely small, the countenance assumes a livid hue, the extremities grow cold; prostration takes the place of restlessness, the cough ceases, the little patients gape frequently, and utter deep sighs, the pulse becomes imperceptible. The progress of the disease is sometimes so rapid that death ensues in two or three days."

"When the disease terminates favourably, the subcrepitant rattle which had given place to the bronchial respiration returns, the latter becomes limited to the root or the summit of the lung, and the natural murmur of respiration is again heard. At the same time, the constitutional symptoms lose their intensity; the pulse and the respiration become more slow, the hot skin becomes moist, the restlessness ceases. The period or resolution commences from the 7th to the 9th day of the disease; but it seldom happens that the respiration becomes perfectly pure before the 20th day."

"The above history belongs, especially, to the pneumonia of children between the age of 2 to 4 years. The disease in older children, from 5 to 15 years, is different in some important particulars: like it, however, it may occur during the progress of another disease, or attack those in perfect health. If the previous disease is a catarrhal affection, we shall have the two periods already noticed as occurring in the younger class of children; but if the previous disease has not this character, the pneumonia will be characterized by no well-marked symptoms. There will be but little cough, no pain in the chest, no expectoration; and as the inflammation of the pulmonary tissue is developed during the progress of a disease itself attended by febrile reaction (smallpox, typhus,) the acceleration of the pulse, and of the respiration, would hardly excite a suspicion. But, as will be seen by referring to our cases, the evident alteration in the expression of the countenance is too important as marking the onset of the pneumonia, to be neglected."

"But in other cases, occurring among the older class of patients, and where the pneumonia is uncomplicated with any previous disease, it resembles perfectly, that we witness in adults, being ushered in with fever, thirst, loss of appetite, pain in the head, cough, stitch in the side, and sometimes by vomiting. Auscultation discovers the crepitant rattle, the bronchial respiration, bronchophony and flatness on percussion, the expectoration is often bloody, but it is seldom rusty and characteristic; the pulse and the respiration are considerably accelerated; the nervous system is affected, as is indicated by the headache, restlessness, and even delirium. According to Drs. Gerhard and Rufz, the medium duration of this variety of the disease, is 14 days. In the few cases that have come under our notice, its duration was much longer."

The 8th chapter is occupied with an attempt to establish the diagnosis of pneumonia from other pulmonary diseases, especially from pleurisy, bronchitis, and phthisis.

With regard to the first of these, pleurisy, they offer absolutely nothing except the statement that this disease, in its simple form, is of very rare occurrence, especially, in the younger class of children: it is commonly a complication of pneumonia. Under such circumstances, the bronchial respiration, has appeared to them to be succeeded by an absence of all respiration, thus indicating the supervention of an effusion into the cavity of the pleura. We wish to offer some remarks on this subject, our observations having led us to a different conclusion. We have been in the habit of observing among the younger class of children, in the habitual enjoyment of good health, a form of disease coming on suddenly with more or less febrile excitement, and accompanied, from a very early period, by marked flatness all over the affected side, and by a distinct and equally general bronchial respiration, unmixed with any kind of rattle. At first, we supposed these cases to be pneumonia, judging principally from the bronchial respiration, which appeared sufficiently superficial: but the extent of the flatness, occupying the whole of the affected side, — while in ordinary cases of pneumonia, it hardly ever passes the median line from behind forwards, — the rapidity with which this flatness occurred, while, at the same time, the constitutional symptoms were commonly far less intense than might have been anticipated from an inflammation of the pulmonary tissue, so rapid in its progress, and so extensive — these circumstances led to the strong suspicion that the case was a pleurisy, with effusion compressing the whole lung to a certain extent, and not pneumonia. The careful watching of such cases, and the observing that the mode of resolution corresponded precisely with that noticed in ordinary pleurisy, — the flatness diminishing from above downwards, and from before backwards, the respiration returning to its natural condition without the complication of the subcrepitant rattle, the existence of which is so constantly established during the resolution of ordinary pneumonia — these facts would seem proper to confirm the opinion expressed as to the nature of the disease. Such cases have so rarely terminated fatally, that *post-mortem* examination has not yet enabled us to gain much information from this important source. In a single case, the diagnosis appeared to be confirmed by dissection. It is probable that two elements unite in the production of the physical signs in the pleurisy of young children: first, the incompressibility of the pulmonary tissue; second, the small quantity of effused fluid. It will not be difficult, with these conditions existing, to conceive how the superficial portion of the lung, especially the air vesicles, should be moderately, yet generally compressed, and that general flatness with bronchial respiration should become physically possible. Indeed, in certain cases of pleurisy in the adult, this state of things has been noticed.

Our authors offer no distinctive signs by which acute bronchitis can be distinguished from the early stages of pneumonia, except the absence of fever and of other constitutional symptoms. We believe, however, that the acute catarrh of children is sometimes attended with very marked febrile excitement; but the great error into which M. M. Rilliet and Barthez have fallen, is in refining so much in relation to the earlier physical signs of pneumonia, most, if not all of which belong to bronchitis, and are distinctly to be referred to it so long as it remains a simple disease, viz.: the sibilant and sonorous rhonchi, the mucous or subcrepitant rattles heard over the posterior, and especially the inferior portions of the chest and on *both sides*, with clearness on percussion; — these are the physical signs of bronchitis in children as in adults; — that these signs are succeeded in many cases by flatness on percussion, and by bronchial respiration, proves only that pneumonia frequently succeeds to bronchitis, a fact now generally acknowledged, and leading to a great practical inference, the necessity of guarding, by early and appropriate treatment, against the extension of the inflammatory action to the air-cells. The fact we have stated above in relation to the developement of the mucous or subcrepitant rattle must be constantly remembered; — in bronchitis this rattle is *always double*, — always heard on both sides of the chest behind, when it is heard at all, for it is commonly absent in mild cases; when then, it is heard over the inferior portion of *one lung* at the early period of an acute attack, the inference is, that pneumonia is not merely to be feared, but that its rapid developement is almost certain. No law is more uniform than that bronchitis affects both lungs, and at the same time. It is true, pneumonia may do the same, but this is not constant, even in children, nor is it even the general law.

Is it possible to distinguish an attack of pneumonia, especially of the more chronic form, from tubercular phthisis? The remarks of M. M. Rilliet and Barthez, accords perfectly with what we believe to be the truth, and are worthy the most careful attention.

"The diagnosis is often very difficult, especially in cases where we are unable to obtain any very satisfactory information in relation to the commencement and the progress of the disease. Let us suppose one of these cases, — we are called to examine a child, on whom we notice a high degree of febrile excitement, with flatness and bronchial respiration under one of the clavicles, — is this a case of pneumonia? We have often heard such a case called so and treated accordingly, and yet, in a very large proportion of such cases, the diagnosis was incorrect, and *post-mortem* examination established the existence of tubercles. Reference to the 43 cases in the table will show that in two cases only was the pneumonia confined to the anterior portion of the lung, and in but one of these was it situated in that portion of the lung corresponding to the subclavicular region. If, however, the proofs of idiopathic pneumonia are rarely found in the anterior-superior portion of the lung, they are sometimes found there in cases when pneumonia supervenes upon the existence of tubercles. But in young children, the tubercles, instead of having their usual seat, (the antero-superior portion of the lung) are sometimes scattered throughout the pulmonary tissue; or when seated in the posterior portion of the lung, — if they become surrounded by inflammation, — then the diagnosis is far from being easy."

Indeed, in this latter case, the diagnosis would appear to be impossible. When tubercles are scattered throughout the pulmonary tissue, our authors thinks their existence is indicated by a harsh respiration, but this is probable a refinement in auscultation of no practical value. Again, there is another difficulty in the diagnosis of pneumonia from phthisis,— both are frequently accompanied by a profuse diarrhœa — in the former case the diarrhœa always precedes the symptoms of pneumonia, but it may also precede those of phthisis.

But, after all, these are exceptionable cases, important to be recognised by him who intends to penetrate beyond the surface in the study of this important class of diseases, — they are not illustrations of the general rule. The truth is, the diagnosis is in most cases sufficiently easy, if proper attention be bestowed, and let it be remembered, that our chief dependence is upon the physical signs, — let us remember that pneumonia commonly first affects the inferior and posterior portion of the lung, while tubercles fix themselves in precisely an opposite situation — the anterior-superior portion; — flatness then and bronchial respiration below and about the lower angle of the scapula, affords a strong indication of the former disease; the same signs under the clavicles indicate the latter. The rational and constitutional symptoms, important as they may be, can avail us but little in the diagnosis, not because they are wanting, but because they resemble each other too nearly in their *ensemble* and progress in the two cases.

A chapter of the work is devoted to the *prognosis*, and another to the *causes* of pneumonia. In relation to the first point, nothing new is advanced; the great mortality of both forms of the disease in the younger class of patients, (2 to 5 years,) is admitted by all accurate observers. The chapter, however, on the causes of pneumonia, contain some facts of considerable interest, which we will enumerate. In the first place, the fact so much insisted on by Dr. Gerhard, that pneumonia is rarely developed in healthy children, is confirmed by our authors' observation, but we have already stated our opinion, that this fact applies chiefly to hospital cases. Again, the comparative frequency of the disease at different periods of childhood, is illustrated by the following statement. M. Hache, in 800 *post-mortem* examinations, met with pneumonia 71 times in children, from 2 to 5 years of age, and only 37 times in those from 6 to 15 years of age. And our authors' remark, that in 60 cases of pneumonia, 40 were between the age of 2 and 5 years, and 20 between the age of 6 and 15 years, and yet more patients of the older class are admitted into the wards.

The influence of temperature and season upon the developement of pneumonia is not yet settled by observation. It is evident, that the true effect of these causes can only be estimated in the more simple and acute form of the disease, which is rare in hospitals where statistical tables can alone be kept; in 13 cases of this description, 5 occurred during the month of February, but the influenza was epidemic at the same period.

Finally, measles, of all other diseases, appeared to operate most powerfully in the production of pneumonia, especially among the younger class of children: thus, in 29 cases of this class, 11 were referred to this cause; and among the older children, 4 in 13 cases. Chronic enteritis also, as we have already stated, not unfrequently preceded the developement of the pneumonia in the younger children.

It is common, and we believe correct, to find fault with French therapeutics. Their best authors, while they give us most admirable and minute descriptions of disease, are yet sadly deficient in relation to treatment. M. M. Rilliet and Barthez, form no exception to this rule, so that after the copious extracts we have already made, we shall pass rapidly through this portion of the work.

Our authors appear to have a very limited faith in the efficacy of bloodletting; in the acute form of the disease, however, they recommend its moderate employment; in the more chronic form they proscribe it altogether, — they advise the use of the tartar emetic, — they have used the white oxyde of antimony, (pulvis antimonialis ?) and kermes mineral, but with less advantage, — they are opposed to the use of blisters. The secondary treatment consists of mucilaginous drinks, opiates, and sometimes tonics. The following remark we deem worthy of a careful attention: —

> "Whatever kind of treatment was employed, the symptoms of amendment began to show themselves in a very large proportion of cases about the same period of time, that is, from the 7th to the 9th day of the disease. This fact would appear to prove that the disease has a period of increase which it must pass through, and which no mode of treatment can prevent."

The following is the summary of the treatment recommended by our authors:—

> "In the more chronic form of the disease, that which has supervened upon some other chronic affection, we ought not to have recourse to an active treatment of any kind, but should endeavour to improve the general health. For this purpose, we should attend particularly to matters of hygeine, taking care that the child does not lie constantly on the back, and paying the utmost attention to cleanliness. We recommend the use of mild tonics, and as the appetite is commonly good, nourishing food in small quantities. The existence of a diarrhœa is not an objection to this course, for this symptom in children is not always dependent upon inflammation, it is commonly connected with the white softening of the mucous membrane of the intestines, which is rather the result of debility than of inflammation. As an external tonic we may use the sulphur bath."
>
> "When the pneumonia has supervened upon an acute disease, we should not recommend bloodletting; we should prefer the tartar emetic, using it in large doses proportioned to the severity of the inflammation, and without any regard to any trifling derangement of the digestive organs which might at first seem to contra-indicate its use: in cases where this mode of treatment does not seem proper, we would recommend the kermes mineral, also in large doses."
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> "Finally, in the simple acute form of the disease, we would recommend a mixed treatment,—bloodletting and the tartar emetic combined, guarding against the too free use of the former, adapting it, however, to the severity and extent of the inflammation."

We can find no reasonable objection to the treatment recommended in the acute form of the disease, except to express the fear that our authors might justly be accused of timidity in the use of so important a remedial agent as bloodletting; while no one can doubt the propriety of adapting a remedy to the extent and violence of the disease, yet we must remember, that, in the present instance, we have one often extremely rapid in its progress, and at the same time decidedly and simply inflammatory in its nature; if bloodletting is ever beneficial, why should it not be so in such cases? The recommendation of the free use of the tartar emetic, we fully agree with; an unreasonable prejudice against its use exists in many of our practitioners. Opium and counter-irritation of any kind we believe to be every way objectionable.

Nothing can be more inefficacious than the treatment recommended in the more chronic form of the disease: *la medicine expectante*, for which the French have been a good deal laughed at, and often unjustly, can hardly succeed in a disease which insidiously but powerfully seizes upon a vital organ; and the result proves this,—the *expectation* is only awaiting for death. The principles of treatment stated in the paper of Dr.

Gerhard, appear to us equally incorrect, if not equally inefficient; it is but justice, however, to state, that this excellent writer has not given us his own opinions, but simply the practice of the hospital where he observed the disease.

> "The antiphlogistic treatment was pursued; but in the cases I witnessed no blood was taken from the arm; either scarified cups, or what is better, leeches were applied to the thorax, in numbers varying from 2 to 8. External revulsion by blisters, poultices, and sinapisms was frequently used, and small doses of opium with demulcents given as internal remedies. *The success of these means was so small*, that their analysis would hardly lead to any results."

After making due allowance for the gravity and often hopelessness the cases admitted into the wards of the hospital, still, we cannot help believing that a treatment founded on a different principle would have been met with better success. We certainly have not found this chronic form the disease so intractable and almost uniformly fatal, although often extremely tedious and protracted in its cure. The error, we conceive, is in treating the disease as an *acute disease;* it is not so. Independently of its attacking the debilitated by previous or bad nourishment, it is in itself entirely destitute of every claim to be regarded as an active inflammation: — its slow developement, — its indisposition to pass into the stage of suppuration, the character of the constitutional symptoms all prove this, and the indications in the treatment are *stimulating* and not antiphlogistic. We have, it is true, found advantage in commencing the treatment by overcoming the slight febrile excitement that sometimes prevails, by the application of a few leeches, the warm bath, and sometimes small doses of antimony; but this indication, when it exists, may be very speedily accomplished, — we then have recourse at once to the stimulating expectorants, of which Coxe's hive syrup appears to us the best, and in frequent and as large doses as can be borne without nausea; to small doses of calomel and Dover's powder; to external stimulants, as blisters, and especially the tartar emetic ointment; to the warm bath rendered also slightly stimulant, by the proper regulation of its temperature, &c., or by medication, — with a mild, but as nutritious a diet as the condition of the digestive organs will allow. We believe that this mode of treatment will very often succeed where grave complications do not exist, and where the constitution still retains a certain degree of vigour.

We have discussed very fully the subject of pneumonia in children, both by extracts from, and comments upon the statements of the authors before us, with the former of whom we once had the pleasure of an acquaintance, and from whose hands we have received former acts of kindness. It is with no small degree of pleasure that we again express our sense of obligation, as well as the satisfaction we have had in the study of the work before us; we are sure that the authors have contributed their share towards the more perfect understanding of a difficult subject.

It would be a superfluous task to offer an analysis of the immortal work of Laennec, or to praise the excellent translation by Dr. Forbes; both have been long before the profession, both are justly esteemed. We wish simply to announce the new edition with the translated notes by Professor Andral, and to express our conviction, that the work, in its present improved form, is by far the most complete work in our language on the diseases of the chest.

The translation of Raciborski's work on Auscultation, by Dr. Post, we have examined with attention, and have no hesitation in expressing our favourable opinion as to the merit of both the original and the translation. Having been once a pupil of the author, we can testify from personal experience, to his practical ability, as well as to the opinion generally entertained at Paris, that his work was superior to any of the kind in use there. We will venture, however, to express the opinion that the translation, when it passes to a new edition, would be much improved by being condensed very considerably in its matter, and by being printed in the smallest type that is distinctly legible. Works of this kind make no pretensions to new discoveries which may require much illustration, but are intended to refresh the memory in relation to well established facts; they should then be books of easy reference, and so small in size as to be carried in the pocket.

J. A. S.

I. *A Treatise on the Nature of Club-Foot and Analogous Distortions; including their Treatment both with and without Surgical Operation. Illustrated by a Series of Cases, and numerous Practical Instructions.* By W. J. LITTLE, M.D., &c. &c., London, 1839, 8vo. 276 pages.

II. *A Lecture on Loxarthrus or Club-Foot,* by THOMAS D. MUTTER, M. D., Lecturer on Surgery, &c., Philadelphia, 1839. Hooker & Claxton, 8vo. pp. 104.

WE have been much gratified and instructed by an attentive perusal of the works whose titles we have just announced. The subject of which they treat, is one which has not, until recently, received that attention from the medical profession, to which its importance entitles it. And even at the present day, the majority of surgeons are by no means as well informed, as it is desirable that they should be, with regard to the pathology and treatment of distortions of the feet. This class of distortions has been noticed from the earliest period to which the records of medicine extend. Hippocrates alludes to them, and describes the mechanical contrivances which were resorted to in his day for their relief. And it would appear from his remarks, that as large an amount of success attended the employment of these means, as has resulted from the purely mechanical method at any subsequent period. From the time of Hippocrates until near the close of the eighteenth century, no advance seems to have been made in investigating the character of these distortions, nor in applying means for their mitigation or removal. The operation of dividing the tendo Achillis for the cure of club-foot, was first suggested by a German physician named Thilenius. The operation was performed at his suggestion by a surgeon named Lorenz, on the 26th March, 1784. The wound healed on the 12th May, and the patient was perfectly cured. Sartorius was the next who divided the tendo Achillis, which he effected after an extensive external incision, and a careful dissection down to the tendon. Finding the tendon adherent to the deeper tissues, he then dissected it from them, and afterwards with great violence flexed the ankle joint, reducing the foot to its natural position. The wound healed at the end of nine weeks, at which time the deformity was removed, but complete anchylosis of the ankle had taken place. Michäelis operated by cutting through only one-third of the fibres of the tendon, and then stretching or lacerating the remaining fibres, which he did immediately after the incision, attempting at once by violent traction to restore the foot to its normal position. He performed this operation several times, and represents it as having generally been successful. His first operation was in 1809. Delpech suggested important improvements both in the mode of performing the operation and in conducting the subsequent treatment. He operated in May, 1816. Instead of cutting directly down to the tendon as his predecessor had done, he introduced an instrument between the tendon and the deeper parts, and cut backward toward the surface, leaving the skin covering the tendon undivided. The peculiarity of his subsequent treatment consisted in retaining the ends of the divided tendon as nearly as possible in contact, until they had become united by lymph, and then gradually extending the connecting medium. His errors consisted, according to Dr. Little, in making his external incisions too large, and in bending the ankle immediately after the operation, for the purpose of ascertaining if there were any remaining obstacles to the removal of the distortions. He immediately brought back the foot to its distorted position, in which he retained it for four weeks, when gradual extension was commenced. The operation was followed by fever, with suppuration and sloughing of the tendon and cellular tissue. The treatment was very tedious, but was ultimately successful.

The profession is chiefly indebted to Stromeyer of Hanover, for having fully demonstrated the safety and utility of dividing the Tendo Achillis, and other tendons, for the cure of distortions of the feet, and for having perfected the mode of treatment suggested by Delpech. His first operation was in February 1831, and in 1833 and 1834 he published the details of six successful cases. Since the operation, as performed by Stromeyer, was made known to the public, it has frequently been repeated, with some modifications, by Dieffenbach of Berlin, Pauli of Landau, Bouvier of France, Little and Whipple of England, and many other European surgeons. In this country it was first performed in North Carolina, in 1835, by Dr. James H. Dickson, who now resides in New-York. It has since been performed by Dr. N. R. Smith of Baltimore, Dr. Detmold of New-York, Drs. Norris, Mütter, Mc Clelland, and Fox of Philadelphia, and Dr. Walter of Pittsburg. Almost every operator has introduced some modification, either in the manner of operating, or in conducting the subsequent treatment. But the general principles, which were first suggested by Delpech, and afterwards more fully carried out by Stromeyer, have been confirmed by the experience of other surgeons. In the words of Dr. Little:

> "The real improvements which have been effected since the announcement of Stromeyer's success, consist in the more complete definition of the anatomy, pathology, and varieties of talipes; in the demonstration of the certainty of cure in a larger proportion of the severer forms of distortion; and also in some improvements to the apparatus; but, to the merit of these improvements, Stroyemer may assert a direct claim to a considerable share. The candour and ability with which he published the entire nature of his mode of proceeding, faithfully depicting both his successes and attendant difficulties; the persevering assiduity with which, notwithstanding the opposition of his contemporaries, he continued, for two or three years, to multiply instances of the value of the division of tendons, before his example found imitators, as justly entitle him to the gratitude of the profession, as they will ensure him honour from posterity."

Dr. Little uses the term talipes as a generic term, including all the varieties of distortions of the feet, which, in common language, are known as club-feet, and which are distinguished by the circumstance that the whole or a large part of the soles of the feet are not applied to the ground. He describes four species of this deformity, under the names of *talipes equinus*, *t. varus*, *t. valgus*, and *t. calcaneus*. In the first, the heel is drawn up, and the weight of the body is thrown upon the toes, commonly upon their plantar surface, but in extremely aggravated cases, the sole is turned so completely backward that the weight of the body rests on the dorsal surface of the toes. Dr. Mütter gives the details of a case of this kind which he treated, and which he designated as talipes dorsalis, under which name it was described by Mr. Whipple. In the second species, or talipes varus, the heel is drawn upward, and the toes turned inward; and the weight of the body is thrown upon the outer side of the foot, the sole looking more or less backward. In the third species or talipes valgus, the sole of the foot looks outward and backwards, the weight of the body resting on its inner edge. In this species the heel is sometimes elevated; but in most instances it touches the ground by its inner edge, while the toes are more or less elevated. In the fourth species or talipes calcaneus, the back part of the heel rests on the ground and supports the whole weight of the body, the foot being flexed to an acute angle with the leg, and the toes not touching the ground. The first and second species are much more common than the others. The last is extremely rare, and as far as we recollect, is not noticed by any other writer than Dr. Little.

These distortions frequently exist at the time of birth, in which case they are distinguished as congenital, or, more properly speaking, as connate, talipes congenitus, or connatus; in other cases, they are the result of disease occurring after birth, and are known as acquired club-foot, or talipes acquisitus. In general, the deformity is greater in those cases in which it existed at the time of birth, than in those in which it commenced at a subsequent period. And in cases occurring after birth, other things being equal, the degree of deformity is in proportion to the earliness of the attack. This circumstance is explained by the more yielding nature of the tissues composing the foot in early life. Dr. Mütter asserts that the acquired club-foot rarely, if ever, presents the elevation of the heel to any considerable extent. A number of the cases detailed by Dr. Little show the incorrectness of Dr. M.'s statement. The pathology of club-foot is not well established, and the mode of its production is still a subject of controversy. According to Dr. Little:

> The various opinions of the best authorities may be arranged in three classes, and stated as follows, viz.:
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> 1. That the primitive formation of the bones is unnatural and incomplete.
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> 2. That the bones, being originally perfectly formed, become injured and distorted by causes independent of the formative process; viz.: by pressure, oc-

casioned by the fœtus drawing the limbs into unnatural positions; by an improper situation of the fœtus in the uterus; or by certain ligaments becoming elongated, and the articulations distorted, from contraction of some of the muscles and relaxation of others.

3. That whatever may have been the condition of the bones on the occurrence of distortion, the act of walking displaces and injures them."

Von Walther regards talipes varus, which is the most common form of club-foot, as the result of arrested developement, intimating that it is the normal condition of the foot at an early period of fatal life. This explanation has not been corroborated by other observers, and it would involve in greater obscurity the etiology of t. valgus. Dr. Little presents the following causes of club-foot, and of many distortions of other parts of the body, as enumerated by Stromeyer:

1st. Structural changes in the muscles, inflammation and wounds, with loss of substance. (These causes, however, induce contracture, but not talipes equinus, varus, or valgus.)

2nd. Debility and inactivity of antagonists — produced,

a. By wounds of tendons, or of the bellies of antagonist muscles. (This does not produce true talipes.)

b. By paralysis of the nerves of the antagonist muscles: this may be complete or partial, and affect either the voluntary or involuntary (reflex) motor powers.

3d. Diminution of voluntary power in the entire limb, without paralysis of the sympathetic nerves, through which the flexors (in the foot, the extensors) preponderate over the extensors, (in the foot the flexors) by the constant organic contraction of the muscles.

4th. Painful affections of the part, restraining or prohibiting motion, such as that from inflammation of a joint. In this instance also the extensors succumb to the flexors. This cause possesses great affinity with the preceding one, (although it does not produce true talipes.)

5th. Increased energy in the muscle, morbid contraction or motion of the muscular fibres — tonic spasm. The muscle, through constant contraction, becomes inert with reference to its particular function, but continues in a state of tension from its fibrous structure."

Dr. Little agrees with Stromeyer in regarding the different forms of talipes, as originating, in the majority of cases, if not universally, in an abnormal contraction of certain associated muscles, acting on the bones, cartilages, and ligaments of the foot at a tender age, when, from their imperfect state of developement, and from the softness of their texture, they are capable of yielding readily in any direction in which a moderate degree of force is applied to them. He illustrates this opinion by a number of cases occurring after birth, in which paralysis or spasm, destroying the equilibrium of the muscles of the limb, appears to have had the principal agency in the production of the deformity.* The origin of the causes in which the distortion was connate, cannot be so clearly traced; but from the similarity of the deformity, and of the associated phenomena, it appears reasonable to infer that they proceeded from causes similar to those which produced the disease at a period subsequent to birth. Dr. Mütter treats with entire contempt all the theories which have been adopted to explain the origin of talipes in utero, and regards the whole subject as involved in such inscrutable mystery, as to render all speculations with regard to it unworthy of attention.

Although Dr. Little regards talipes as originating in abnormal muscular contraction, he does not overlook the existence of other agencies, which materially aggravate the deformity after it has been produced. The principal of these agencies is standing or walking, by which the weight of the body is thrown upon the distorted limb. In those persons who are affected with talipes, and who have been in the habit of taking much exercise, the following condition of the foot is usually found. The bones of the tarsus are more or less displaced, although it rarely if ever occurs that any one of them is totally dislocated: some of the tarsal ligaments are preternaturally shortened and rigid: the cuticle becomes very thick and hard on those portions of the foot which are subjected to pressure, and frequently painful corns or bursal swellings exist in those situations. The individual bones are seldom materially altered in their forms, and true anchylosis or bony union rarely takes place between them. Talipes is often attended with very imperfect developement of the bones of the leg, which are shorter and more slender than in their normal condition. The muscles also are generally wasted, and the muscular power of the whole limb is often very deficient. Dr. Mütter says, that in connate talipes the muscles have at the time of birth their normal developement; but at a later period, when the subject of the deformity begins to walk, the muscles diminish in their relative size. Dr. Little accounts for the production of the different species of talipes in the following manner: 1st. Talipes equinus is occasioned chiefly by the contraction of the gastrocnemius and soleus muscles drawing up the os calcis.† 2nd. Talipes varus is produced by the contraction of the same muscles, together with that of the tibialis anticus and posticus, by which the inner margin of the foot is drawn upward, and its anterior extremity is turned inward. In aggravated cases, the tarsus yields in the middle, the os calcis with the astragalus being drawn upward and backward by the gastrocnemius and soleus, while the anterior portion of the tarsus together with the metatarsus and phalanges are drawn upward and inward by the anterior and posterior tibial muscles, so that the outer ankle and dorsum of the foot become the chief points of support when the foot rests on the ground. Although the deformity is greater in a case of this kind, the inconvenience in walking is not so great as when the weight of the body is thrown upon the toes. 3d. Talipes valgus results principally from the contraction of the peronei muscles, elevating the external margin of the foot, and turning its anterior extremity outward. In some cases, this is combined with a contraction of the gastrocnemius and soleus, by which the heel is at the same time elevated. 4th. Talipes calcaneus, in the only case observed by Dr. Little, was produced by contraction of the tibialis anticus, and of the extensor longus digitorum pedis.

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* Dr. Mütter regards the want of equilibrium in the muscles of the leg as the effect, and not the cause, of the distortion of the foot.

† Dr. Mütter remarks that t. equinus is rarely a congenital defect. This does not seem to accord with the observations of Dr. Little.

Besides the muscles which have been mentioned as having the principal agency in giving rise to the different forms of talipes, the deformity may be increased or its removal embarrassed by the contractions of other muscles, as those which are situated on the foot, and by the shortening and rigidity of the fascia plantaris, and of some of the ligaments of the foot. Dr. Mütter observes that club-foot occurs more frequently on the right side than on the left. This remark appears to be contrary to the opinion of Dr. Little, although it is corroborated by the cases which he describes.

The treatment which has been adopted by Dr. Little for the cure of club-foot is essentially the same as that which is pursued with so much success by Stromeyer. It consists in the division of the tendons of those muscles which offer the greatest resistance to the removal of the deformity, and in the subsequent application of a mechanical apparatus adapted to each particular case. The principal obstacle to the reduction of the foot, in cases of t. equinus and t. varus, which together constitute the vast majority of all the cases of club-foot, is found to be the tendo Achillis, as it is drawn up by the gastrocnemius and soleus muscles. In numerous cases, the deformity is easily and entirely removed by the division of this tendon, followed by the judicious application of a mechanical apparatus. But in other instances it is also necessary to divide the tendons of the tibialis anticus, and posticus, and those of the flexors of the toes: advantage is sometimes derived from the division of the plantar fascia. Dr. Little thus enumerates the principles which are recommended by Stromeyer, and which are the basis of his own method of treatment.

"The tendons of the muscles which maintain the deformity should be divided with as little injury as possible to the skin and neighbouring parts.

No attempt should be made to force the foot into its natural shape immediately after the operation; but the necessary extension for that purpose should be commenced as soon as the external puncture or punctures are completely healed; this occurs about the second or third day.

The lymph which is effused between the ends of the divided tendon or tendons, with the muscles which are not divided, and the ligaments or fascia which may impede the replacement of the foot, must be gradually extended until the foot assumes its natural shape, and the ankle can be bent to its fullest extent.

The application of the apparatus by which extension is effected, must be continued for a certain period after the cure, notwithstanding that the patient has been enabled to stand firmly, and has improved in walking, in order to obviate the tendency to contraction evinced by the intermediate substance or lymph effused between the ends of the divided tendons."

Dr. Little thus describes his mode of operating, and the subsequent treatment which he pursues:

"The operation for dividing the tendo Achillis is performed as follows: the patient being seated, an assistant supports the knee, whilst another, drawing downwards the patient's heel with his left hand, and pressing upwards the toes and front of the foot with his right, produces the necessary tension in the tendon proposed to be divided. The operator, after feeling the outline of the tendon with the left forefinger and thumb, passes the bistoury through the skin, one or two finger's breadth above the malleolus internus, with one of its sides turned towards the tendon, and the other directed towards the deeper muscles and the tibial vessels and nerves. On being satisfied that the point of the knife has been passed beyond the external edge of the tendon, and has nearly reached the skin of the opposite side, the knife is turned so as to bring the cutting-edge to press against the anterior surface of the tendon, which is then divided by the action of withdrawing the knife from the limb, and commonly by a single stroke. The complete division of the tendon is known by the immediate cessation of the tense resistance, by hearing a distinct snap, and a feeling before the knife is wholly withdrawn that nothing remains undivided except the flaccid integuments. The operation does not occupy a quarter of a minute, and is almost bloodless, as usually not more than a single drop of blood is effused."

"In order to ascertain whether a scalpel, either straight or convex-edged, was better adapted to the performance of this operation than a concave-edged knife, I have on various occasions, employed different knives, passing from that formerly described as the straight French bistoury, and even to a small common scalpel. I find, upon the whole, that a knife with a strait or slightly convex-edge is preferable to one too much curved, or too concave; provided, however, the operator possess ordinary dexterity, the form of the knife which he uses will be of little consequence."

"The division of the tendon of the posterior tibial muscles is, in my opinion, best accomplished at the distance of two or three fingers breadth above and behind the internal malleolus. The point of a strong and straight bistoury should be introduced through the skin at the outer edge of the tendon, and passed between it and the tendon of the long flexor of the great toe, directed towards the tibia. As soon as the knife reaches the bone, the handle should be depressed outwardly, and the point carried internally beneath the posterior tibial tendon, and continued outwards until the surgeon is satisfied that the point has passed beyond the inner edge of the tendon. He may then feel that he has the tendon upon the edge of his knife, when by a few slight cutting motions he may divide it without difficulty. No snapping sound, similar to that which follows the division of the tendo Achillis, is heard when the section of the posterior tibial tendon is accomplished; as the fleshy fibres of this muscle take their origin so low towards the malleolus internus, that they prevent the occurrence of any considerable retraction of the superior end of the tendon.

"The most favourable situations for dividing the tendons of the tibialis anticus, and flexor longus pollicis muscles are where the former passes in front of the ankle joint, and where the latter is felt most prominent in the sole of the foot, in those cases where division is required. The manner of dividing each of these tendons is to pass the point of a bistoury through the integuments, and then with great care beneath the tendon, avoiding to carry the knife farther than is absolutely necessary, and dividing the tendon from within outwards, in order not to endanger any of the neighbouring structures. The recoil of these muscles, on their tendons being divided, is distinctly felt and heard. If they be thus cautiously divided, no risk is incurred of injuring the anterior tibial, posterior tibial, and internal plantar arteries, or any of the nerves. The wounds made in the integuments are extremely small, and unite by adhesion; consequently all chance of suppuration and sloughing is avoided,"

"After either of these operations, the application of a few strips of adhesive plaster, and a common bandage is the only dressing required. The limb should be laid in its deformed position on its outer side, and supported by a common wooden or paste-board splint. The latter after being softened by soaking in water, may be advantageously applied to the limb a day or two before the operation, &c.

The apparatus to which I resort for the necessary extension of the limb, is the foot-board invented by Stromeyer, and another apparatus constructed in some respects upon the principle described and represented by Scarpa, in his work upon the cure of these deformities."

Stromeyer's apparatus, to which Dr. Little here alludes, consists of a broad wooden splint which is applied to the posterior part of the leg, and a foot-piece so connected with it as to possess a double motion, first, in the direction of flexion and extension of the foot upon the leg, and secondly, a sliding motion by which it can be accommodated to the more or less oblique position of the foot. The other apparatus which is employed by Dr. Little, and which is a modification of that which is described by Scarpa, consists of the following parts: 1st. An iron shoe padded with hair, and covered with leather. 2d. A steel spring which is applied to the outside of the leg in t. equinus and varus, and to the inside in t. valgus, fastened to the shoe below, and kept in contact with the leg by means of a padded strap which encircles the limb below the knee. 3d. A vertical strap attached to the heel of the shoe below, and above to a circular padded strap which goes around the leg just above the ankle. 4th. Two straps which are fastened to the inner side of the heel of the shoe, and which buckle around the instep. 5th. A short spring which is fastened to the outer side of the shoe near the heel, while its free extremity looks forward, and is connected with the anterior part of the foot by a strap which passes around the toes. The use of this spring is to overcome the inversion of the toes. 6th. A screw, by which the angle of junction of the leg-spring and the shoe may be altered at pleasure. It is by means of this screw that the bending of the ankle is accomplished.

The restoration of the foot to its normal position, after the division of such tendons as it may be necessary to cut, is in some cases accomplished with very little pain or inconvenience to the patient. In other cases, it occasions a considerable amount of suffering, owing in part to the rigidity of the tissues which require to be stretched, and in part to the greater sensibility of the individual. In all cases, the restoration of the limb should be effected gradually and without violence. Care should also be taken, by the proper application of bandages, pads, and cushions, to equalize the pressure, or to guard against excoriations. The use of India-rubber air-cushions has been found to be of great advantage in the practice of Dr. Little in protecting corns and other tender parts of the feet from injurious pressure. It sometimes happens, in spite of all the precautions which may be observed, that excoriations, erysipelas, &c. will be produced, and will make it necessary for a time to suspend the treatment. After the treatment has been interrupted in this manner, it sometimes becomes necessary again to divide some of the tendons. When the pain produced by the stretching of the ligaments, &c. is so severe as to prevent the patient from sleeping, the apparatus may be somewhat slackened during the night. But it will not be proper to yield too much to the feelings of the patient: the surgeon should ever bear in mind that his object is not so much to promote present comfort as to effect a radical cure of the deformity. The pain may be moderated, and sleep obtained by the appropriate use of anodynes. Advantage is sometimes derived from the removal of the apparatus at night, and the substitution of a tin splint adapted to the existing form of the limb, so as to prevent any increase of deformity in consequence of muscular contraction during the night. The length of time required for the cure of talipes, varies greatly in different cases. It does not depend simply on the age of the patient, nor on the extent of the external deformity; but it is much influenced by the rigidity of the ligaments, the altered form of the bones, occasioned by long exercise on the deformed limb, and by other circumstances. Dr. Little makes the following observations with regard to the time occupied by the treatment:

> "In the average cases of club-foot, whether congenital or otherwise, two or three weeks elapse, after the operation, before sufficient bending of the joint is obtained: previously to which, however, the patient is allowed to walk wearing the apparatus: after the expiration of another fortnight, the greater part of the tenderness of the ankle joint, produced by the stretching of the ligaments, subsides. By this time the union of the tendon has acquired sufficient firmness to allow of walking and exercise in the open air. In the greater number of cases, particularly in children, the ankle-joint requires to be supported by a modification of the instrument used to effect the extension, or by one or two thin steel springs, or pieces of whalebone sewn between the outer leather and the lining of the side of a lace-up-boot. Some time elapses before the gait of the individual acquires the ultimate perfection of which it is susceptible. Children advance more slowly in this respect than adults, as they limp if they feel the least uneasiness, and cannot take as much pains with their manner of walking. I have had many adult patients, who, within two months after the performance of the operation, have walked several miles, and have had but little appearance of lameness. I have, however, treated one very bad case of congenital t. varus, which was under my care for nine months — that of a gentleman who had walked from infancy without the slighest mechanical support, and whose foot had consequently reached a most frightful degree of deformity: but the ultimate success, notwithstanding the attendant difficulties, enables me to refer to this case as a triumphant proof of the advantage of the Stromeyeran method of cure."

In t. equinus, and in some forms of t. varus, as soon as the deformity is so far removed that the sole of the foot can be placed upon the ground, the further progress of the cure is promoted by walking freely on the limb.

Dr. Mütter's mode of operating, and his subsequent plan of treatment, differ somewhat from those of Dr. Little. He divides the tendo-Achillis from behind forwards, introducing the knife between the integuments and the tendon, while the foot is forcibly extended so as to relax the gastrocnemii, and then turning the edge of the knife backwards and dividing the tendon, while an assistant renders it tense by attempting to bring down the heel. Immediately after dividing the tendon, he depresses the heel as much as possible, and at once applies the apparatus for the removal of the deformity. In dividing the tendo Achillis from behind forward, and in commencing at once the attempt to restore the foot to its natural form, Dr. M. follows the plan which was prescribed by Bouvier and Whipple. He gives two reasons for rejecting Stromeyer's method of dividing the tendo Achillis. 1st, That it endangers the wounding of the posterior tibial artery. 2d, That it does not ensure the division of all the fibres of the tendon. With regard to the first of these reasons, we cannot perceive that it has any force, as it would require a very unusual degree of ignorance and awkwardness to divide the artery by either mode of operating. We are inclined to think that there is some force in the second of Dr. M.'s reasons; and from the trials which we have made of both methods of operating, on the dead subject, we are induced, upon the whole, to prefer the mode which is recommended by Dr. Mütter. For conducting the subsequent part of the treament, Dr. M. employs a variety of instruments, to some of which he lays claim as being entirely of his own invention, and others he admits to be modifications of instruments used by other surgeons. They appear, in general, to be more clumsy than those recommended by Dr. Little, but they have the advantage of being less expensive. It is not necessary to give a description of these instruments, as the work itself, which is accessible to all our readers, contains a full account of them, illustrated by cuts, which give a better idea of their construction than any mere description can furnish.

Dr. Little recommends, in the treatment of talipes in infants under 12 or 14 months of age, that mechanical means only be employed. His first attempt, in treating t. varus in infants, is to overcome the twisting of the foot, and to reduce it to the state of talipes equinus. This he accomplishes before the age of six months, by the use of tin splints adapted to the foot and leg, the foot-piece being soldered to the leg-piece, at an angle corresponding with the degree of extension of the ankle in its deformed condition. The inner side of the foot-piece comes up as high as the top of the foot, while its outer side comes just above the sole. The leg and foot are confined in this splint by means of a roller, and, in this manner, the eversion of the toes and twisting of the foot are overcome. When the foot is reduced to the condition of t. equinus, splints may be employed of a similar construction, except that the angle by which the two portions of the splint are connected with each other, approaches more nearly to a right angle. By employing a series of these splints, in each of which, successively, the angle becomes less obtuse, the deformity may, sometimes, be entirely removed. After the age of six months, Dr. Little uses Scarpa's apparatus as modified by himself, and as before described. After the child has become sufficiently old to walk, if the deformity continues, Dr. L. recommends the division of the tendo Achillis. It is of the highest importance in the treatment of club-foot in infants, to avoid disturbing their rest, or injuring their general health.

The work of Dr. Little is evidently the fruit of much observation and reflection. Its author was himself a subject of the disease of which he writes, and was indebted to Stromeyer for the successful treatment of it in his own person. He has devoted a number of years to the investigation of the different forms of distortion of the feet, and has himself treated 82 cases. In this treatise he presents the details of 34 cases, illustrating the pathology and treatment of the different varieties of the disease. Of these cases, 17 were of t. equinus, 15 of t. varus, one of t. valgus, and one of t. calcaneus. In the treatment of 19 of these cases, the tendo Achillis alone was divided; in 3 the tendo Achillis and the tendons of the tibialis anticus and posticus; in 2, the tendo Achillis and the tendon of the tibialis posticus; in one, the tendo Achillis and the tendons of the flexor longus pollicis and extensor proprius pollicis; in one the tendo Achillis and the tendons of the flexor longus pollicis; in one the tendo Achillis and the tendons of the peronei. Seven cases were treated without the division of any tendons. The deformity was so far relieved that the sole could be placed on the ground.

In	1	case in	5	days.
"	1	"	7	"
"	1	"	10	"
"	6	cases in	2	weeks.
"	5	"	3	"
"	8	"	4	"
"	3	"	6	"
"	1 by mechanical treatment alone, in 8 months.			

In 2 cases the treatment was interrupted. In the remaining six cases, which were treated without any operation, the duration of the treatment is not mentioned. The ages of the several patients were as follows:

Under 1 year . .	1	10 to 20 years, . .	12
1 to 2 years, . . .	2	20 to 30 " . .	6
2 to 5 " . . .	5	30 to 40 " . .	3
5 to 10 " . . .	3	50 " . .	1

There was also one patient, a medical man, whose age is not stated.

Dr. Little's treatise is illustrated by a number of wood-cuts, which are well executed, from drawings made by the author himself, or under his immediate supervision.

Dr. Mütter's lecture contains, within a small compass, a considerable amount of valuable information. The subject of which it treats is also elucidated by a series of wood-cut engravings. But the author's style of writing is loose and inaccurate, and he has, moreover, been peculiarly unfortunate in his selection of a printer, as the list of errata occurring in the course of 77 pages, is more extended than it ought to be in a large volume. We would recommend special attention to this subject, and a thorough revision, if a second edition should be called for. We have no space for any extracts from the lecture, but will merely present the author's summary of 28 cases of club-foot, which he has treated, and the details of which are recorded in an appendix.

> "Of 28 cases, 21 were congenital; 7 were acquired; 19 of varus; 2 of valgus; 7 of pes equinus; 19 occurred in males; 9 in females; in 16 both feet were affected; in 12 only one foot, in 8 of which the right was deformed, in 4 the left.
>
> 2 in children under one year; 9 in children from one to 6 years; 16 from 6 to 30 years; 1 from 30 to 50 years.
>
> 20 perfectly cured; 8 under treatment; 1 cured in from 10 days to 4 weeks; 9 in from 4 weeks to 2 months; 10 in from 2 to 4 months.

A. C. P.

Traité des Difformités du Système Osseux, &c. &c. Par F. Humbert, Directeur de l'Etablissement Orthopédique de Morley, &c. &c., et par N. Jacquier, Docteur Médecin, &c. &c. 8vo. 4 t. pp. 1500. Accompagné d'un Atlas de 174 planches, in 4to. (A Treatise on the Deformities of the Osseous System, with an Atlas of 174 plates.)

This is a work of most formidable dimensions, designed to prove the curability of almost every kind of deformity by mechanical means, when they are judiciously applied, and at an early period of life. M. Humbert, the principal author, is at the head of a large orthopedic establishment at Morley, and asserts that, during the last eighteen years, he has effected a more or less complete cure of more than three hundred cases of deformity. Distortions of the spinal column are those which have been most frequently committed to his care, and to them the principal part of his work is devoted. His chief reliance for the removal of these distortions, is on the persevering use of mechanical means, adapted to straighten the portion of the body which is preternaturally curved, and to sustain the pressure of the superincumbent parts. For this purpose he employs crutches, arm-chairs, and couches with numerous fixtures, modified in a great variety of ways, to adapt them to the different kinds and degrees of deformity. He also employs corsets stiffened with plates of steel and thick leather, to which he attached great importance. As auxiliary remedies, he makes use of baths, which are chiefly local, *douches*, frictions, and other manipulations. He approves of gentle exercise, but pointedly condemns the violent course of gymnastics, which some authors have so highly recommended as a means of strengthening the muscular system, and thus preventing an increase of the deformity. His reasoning on this subject appears to us to be just. He says that, when the equilibrium between the muscles on the two sides of the body is lost, violent exercise only increases the action of the muscles which already are proportionably too strong, the consequence of which is, that the deformity becomes aggravated.

The patients treated by M. Humbert were generally between the ages of twelve and twenty years. The duration of the treatment was usually from one to two or three years. The result is represented to have been, in a few cases, an entire removal of the deformity, and in nearly all, a very marked improvement. In numerous instances, the patients were prematurely removed from the institution by their friends, because they regarded them as cured.

As the management of these orthopedic institutions is not familiar to the profession in this country, we have thought that it would be acceptable to our readers to be furnished with an extract, exhibiting the daily routine of the establishment at Morley:

> "At two o'clock in the morning, the maid who has charge of the baths begins to prepare them for the use of the patients.* When the temperature of the water and the air in the apartments has been elevated to the proper degree, the patients are freed from the apparatus in which they sleep, and are conducted to the baths. The baths are then administered to each patient during a period of 15 minutes, after which the patients are again conducted to their beds, and the apparatus reapplied. A bell rings at 8 o'clock, when the patients are freed from their sleeping accoutrements, are dressed for the day, and have their walking apparatus adjusted. At 9 o'clock breakfast is served, after which they walk about, visit each other, &c. until eleven, when they are again subjected to the process of local bathing as in the night. After bathing, they are placed

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* M. Humbert gives as a reason for administering the baths during the night, that the apparatus becomes irksome, if applied without interruption during the whole night, and that the patients enjoyed more refreshing sleep after the use of the baths.

in arm-chairs, so constructed as to relieve the spine from the pressure of the upper parts of the body. They have desks placed before them, on which are laid different articles to employ or amuse them, such as needle-work, embroidery, paper for drawing, writing, &c. They remain in this position until 5 o'clock, refreshments being brought to them at half-past one. Waiting-maids are in constant attendance to furnish them with whatever they require. At 5 o'clock the apparatus is removed from them, and at 6 they dine; after which they promenade or amuse themselves in other ways. At 8 o'clock they retire to their rooms; and at half-past 8 they are placed in their beds, and the apparatus in which they sleep is adjusted to them. After this, the director of the establishment, accompanied by an attendant who has the immediate charge of the machines, goes through all the rooms, examines whether the apparatus is well applied, and inquires into the condition of the patients. Once a week, the director examines the deformity of each of the patients, and directs such modifications of the treatment as he may deem necessary."

M. Humbert treats deformities of the extremities on the same principles as those of the spine, and condemns the division of tendons as unnecessary and injurious. But the long duration of the treatment in the cases of club-foot which he records, as contrasted with those which have been treated by the division of tendons, is a strong argument in favour of the last-mentioned practice. M. Humbert treats old dislocations by mechanical means acting gradually, and tending to overcome the contraction of muscles, by which the bones are retained in their abnormal position. By this mode of treatment, he professes to have succeeded in reducing a dislocation of the hip-joint of six years standing.

The style of this work is obscure, its arrangement deficient in method, and its plates and explanations very difficult of comprehension. And upon the whole, we think that there are but few members of the profession who will devote as much time and attention to its perusal, as will be necessary in order to understand it fully, and to derive from it much valuable information.

A. C. P.

On Granular Degeneration of the Kidneys, and its connection with Dropsy, Inflammations, and other Diseases. By Robert Christison, M.D., F.R.S.E.: President of the Royal College of Physicians of Edinburgh, Professor of Materia Medica, and one of the Professors of Clinical Medicine in the University of Edinburgh, &c. Edinburgh, 1839, 8vo. pp. 288. (Republished in Dunglisson's Medical Library, Vol. III.)

The above work of Dr. Christison is a most valuable contribution to medical science, and an admirable model for those who would successfully investigate disease. Two-fifths of the work consist of illustrative cases, but they only form a part of the observations upon which his deductions, constituting the main body of the work, have been based. The language of Dr. Christison will be employed, as far as practicable, in giving a summary of his work. Much valuable matter must, necessarily, be omitted, and therefore all are earnestly recommended to procure the work itself.

In the year 1827, Dr. Bright announced, in his "Reports of Medical Cases," that dropsy frequently depends on a peculiar degeneration of the structure of the kidneys; and that this change of structure is likewise attended with a liability to other diseases, more especially of an inflammatory nature, and is indicated by the presence of albumen in the urinary secretion. Blackall, Alison, Andral, and especially Wells, had previously made observations which, if followed out, might have led them on to the general principles established by Bright.

Since 1827 the material parts of Dr. Bright's statements have been fully confirmed, and additional information published on the subject, in separate treatises, and in medical journals, in Edinburgh, Dublin, London, and Paris. In the work under review, Dr. Christison has not only brought forward new facts, especially in relation to the composition of the blood, but also availed himself of the researches of others.

Pathology and morbid appearances. The disease is a morbid degeneration of the kidneys, whose exact nature has not yet been ascertained. In its progress it is essentially chronic. The morbid deposit appears to be always thrown out gradually and slowly. Yet it is occasionally preceded, and often throughout its course becomes, for a time, accompanied, both by local and general reaction. It is attended by irritation of the kidneys, of that kind which is characterized by the excretion of blood, or of its albuminous portion. It tends to diminish or suppress the excretion of the solids of the urine, both in the early stage, by causing functional disturbance, and, likewise, in the advanced stage, by inducing extensive derangement of organic structure. It also tends singularly to impoverish the blood, by depriving it of a large proportion of its colouring matter. Ultimately, its intrinsic result is to overwhelm the functions of the brain, by fatal coma, probably in consequence of the blood, the proper stimulant of that organ, being, on the one hand, poisoned by the accumulation of urea, and deprived, on the other hand, of its colouring matter. But it also engenders in the constitution a certain infirmity, or susceptibility; which, while indicated, in some measure, by a proneness to disease at large, is more peculiarly characterized by a liability to serous effusions, as well as to inflammation of the serous membranes and of the internal viscera. And it is through the intervention of these secondary circumstances, that the disease of the kidneys most generally proves fatal, — much more so than by its intrinsic consequences, the direct annihilation of the cerebral functions.

"When the disease, in its *incipient stage*, has assumed an acute form, which is rarely the case, and has proved fatal, the kidneys are found flabby, friable, and unusually large, each weighing eight or nine ounces, and, sometimes, even twelve ounces, as once seen by Rayer, instead of four or five ounces, the natural weight of the kidney; much darker and more vascular externally, and with points and star-like spots of ecchymosis; internally dark, brownish-red, or almost reddish black, gorged more or less with blood, which drops from a cut surface in unusual quantity; and they often present, throughout their whole structure, but more especially in their cortical portion, lines, small roundish specks, or stellated spots of still darker colour, like ecchymosis, and not easily removed by washing. Rayer thinks he has ascertained that these spots are the Malpighian glands in a state of congestion. Generally the cortical substance is chiefly affected, and seems considerably broader than in the healthy state, as if it were distended towards the circumference by its gorged condition, — a state which the French pathological writers consider to be hypertrophy of the organ. Occasionally, there is also an appearance in the cortical substance of a granular matter, of a dark-reddish-yellow tint, deposited here and there; so that its natural striated texture is somewhat obscured. The lining membrane of the pelvis of the kidney is commonly very vascular and red. The bladder is always found much contracted; and it commonly contains only a drachm or two of urine, which is, for the most part, pale, always very strongly coagulable by heat, and varying in density from 1014 to 1025. When the urine has been suppressed or much reduced before death, and life has been terminated by fatal coma, it is an invariable fact to find the blood and other fluids more or less largely impregnated with urea. In such cases, death seems to be produced by a suspension of the functions of the brain, as already stated, in consequence of the presence of urea in the blood, as generally no visible pathological change is found in the brain itself, not even congestion of blood or serous effusion, except in some rare cases.

It is not improbable, that some of the instances where a dark, flabby, enlarged, congested state of the kidneys has been found, in connection with coagulability and gradual suppression of urine, have been nothing more than cases of ordinary, or pure nephritis; which, if not cut short by fatal coma, might have continued to run the course of an acute disease, and terminated in resolution, or in suppuration, rather than in granular deposition.

The deposition of granular or cheese-like matter in the cortical structure of the kidney, and the disappearance, partially or completely, of the natural structure, constitute the *middle stage* of the disease. This is the stage of the disease, in which it most commonly first manifests itself by symptoms, and leads to serious disturbance of the health. The kidney may be either larger and softer, or smaller and firmer than natural. Its colour, externally, is paler, sometimes uniformly grayish, grayish-yellow, or yellowish-red, more commonly of its usual brown tint, but of a paler shade, minutely mottled with gray, or yellowish-gray, and often traversed by white indurated streaks like cicatrices. When its investing membrane is removed, which, for the most part, may be done with facility, the outside of the kidney is seen to be more distinctly mottled brown and gray, or else uniformly grayish or yellowish, with numerous spots of vascularity, often forming lines or stellated chequerings. The surface has, consequently, a granular appearance, and is often actually rough from a distinct granular structure. When a section is made through the kidney, the cortical structure is seen broader than natural, sometimes of the natural breadth, and sometimes much narrower. Its cut surface is grayish, grayish-red, grayish-yellow, or reddish-yellow, without the natural striated arrangement, or nearly parallel lines, but of a uniform, sometimes obscurely, sometimes distinctly, granular texture, chequered occasionally with reddish or brownish spots. When the kidney is injected, the matter, according to Dr. Bright, does not penetrate into the cortical portion. The granular structure of the morbid formation is sometimes quite distinct; more generally it is obscure to the naked eye on a cut surface, but becomes visible with a common magnifier, or on tearing the morbid tissue; but occasionally neither by tearing nor with a magnifier of four or five powers is the granular character to be distinctly seen, or any other than a smooth homogeneous structure like that of the brain; and, in a few instances, the structure is not only homogeneous, but friable, and not unlike the fatty degeneration of the liver, although there is no fatty matter in it. If death is occasioned in the middle stage by coma, consequent upon diminished urinary secretion, the bladder is found contracted and nearly empty; and the urine found in it has a density, for the most part, between 1010 and 1016, and coagulates more or less with heat and nitric acid, while urea is uniformly found in the blood, as well as in the serous fluids, effused in various quarters.

In the last or *advanced stage* of the disease, the whole structure of the kidney, the tubular as well as the cortical, is invaded by the morbid deposit, while the natural structure is more or less completely absorbed. The natural structure of the kidney not only undergoes absorption, but, in some cases, the morbid deposit itself is absorbed. Hence we sometimes find one of the kidneys exceedingly small, flabby, thin, and so entirely deprived of its proper structure, that no vestige of either cortical or tubular substance remains. In such cases the ureter is, of course, useless; and in one instance of the kind, M. Solon found its canal obliterated.

There is very great diversity in the anatomical characters of the disease, as the kidney is not only sometimes excessively shrivelled, as stated above, but sometimes much enlarged, especially in the incipient stage; at one time little firmer than recent brain, at another harder than the hardest tubercular liver, cutting like cartilage; in some cases composed of a smooth homogeneous mass, in others finely granulated like herring-roe, and in others coarsely tuberculated, so as to present somewhat the appearance of being thickly studded with peas. The several characters here enumerated may occur in different cases, where the amount of the suppression of the solids of the urine during life, and the extent of disorganization of the healthy structure of the kidneys, which are the best measures of the stage or progress of the disorder, seem entirely the same. The morbid encroachment upon the healthy structure of the kidneys may thus be of an entirely different nature in different cases, and yet produce the same interference with their natural function.

At times every other organ, except the kidneys, is found in the healthy state; in such cases, as well as in many others, the immediate cause of death is coma, or the annihilation of the functions of the brain. Often where no sign of any secondary disorder had attracted attention during life, and the patient has died with oppression of the cerebral functions, the pathological inspection betrays a variety of morbid alterations, which show that important organic changes had been silently going on in other organs besides the kidneys. Very generally disease of other structures is manifested during life, and various secondary appearances variously combined in different cases are found after death, particularly dropsical effusions, namely, œdema of the cellular tissue at large, œdema of the lungs, serous effusions into the sacs of the peritonæum, pleura, and pericardium, — emphysema of the lungs, with redness of the bronchial membrane and mucous gorging of the bronchial tubes, as the consequences of catarrh, — the signs of recent inflammation of the lungs, redness, serous or sanguinolent infiltration, or hepatization of their tissues, — the signs of recent pleurisy, peritonitis, or pericarditis, such as turbid serum effused into the cavities, and soft, curd-like lymph upon the membranes, — traces of inflammation of the alimentary canal, more especially of the intestines, redness of the mucous membrane, effusion of lymph on it, enlargement of its glands, or ulceration, — tubercular deposition in the liver, — softening of the spleen, — hypertrophy and dilatation of the heart, sometimes with valvular obstructions, sometimes without them. Among the rarer appearances may be mentioned œdema of the glottis, ulceration of the larynx, redness of the villous coat of the stomach, vascularity of the mucous membrane of the urinary bladder, induration of the spleen. In many cases too, traces are found of old attacks of visceral disease, more especially of pneumonia, pleurisy, peritonitis, and pericarditis. These secondary derangements sometimes occur in the incipient stage, especially those indicating recent inflammation. They are much more frequent, however, in the middle stage and still more so in the advanced stage of the disease of the kidneys.

In reference to *the blood in the advanced stage*, it is usually extremely deficient in all the organs; in one instance a tangible drop of blood could not be discovered in any part of the body, — not even so much as was necessary to determine whether the blood was fluid or coagulated. "Urea is present very generally in the blood and serous secretions, and always where death is preceded by material diminution of the secretion of urine." The colouring matter of the blood is exceedingly defective, and hence the singularly blanched and bloodless appearance, particularly of the stomach and intestines, and of the brain and its membranes.

SYMPTOMS. — These may be arranged under the following heads: — local pain and other local uneasiness; disordered digestion; a diseased state of the urinary secretion; a deranged state of the general circulation, together with an altered condition of the blood; leucophlegmatia; and a variety of secondary or incidental affections of textures and organs at a distance from the primary seat of disease, among which the most frequent are œdematous effusion into the cellular tissue, serous effusion into the serous sacs, inflammation of the serous membranes, bronchitis, diarrhœa, rheumatism, and affections of the brain. These symptoms are very variously grouped in special cases; which diversity arises in part from the disease being sometimes acute, sometimes chronic, in its origin, and partly from the exceeding number and complexity of its secondary disorders.

When the disease is developed in an acute form, it is commonly after exposure to cold, or to cold and wet together. There is a preliminary fit of chillness or rigour, followed by feverish reaction, hard pulse, hot, dry skin, restlessness, thirst, loss of appetite, and headache. The urine becomes quickly scanty, sometimes entirely suppressed, highly albuminous, occasionally bloody, and, in rare instances, mingled with clots of blood. There is also, for the most part, frequent desire to pass urine, with, at times, difficulty or positive pain in discharging it; not uncommonly dull, more rarely, acute pain in the loins, aggravated by pressure, and sometimes shooting downwards to the inside of the thighs, or external parts of generation; and more usually, pain across the pit of the stomach, and in the flanks, either felt only on pressure, or increased by it, but constantly present more or less. Sickness and vomiting are of common occurrence. Secondary affections soon supervene, commonly after two days: of such secondary affections the most common are dropsy, especially of the face and limbs; coma, with or without convulsions; and acute serous inflammations, more especially pleurisy. The dropsy which occurs in this stage is of the kind which has been appropriately called inflammatory dropsy, from the fever and general tendency to inflammation which accompany it. Not unusually the disease is checked entirely under active treatment; often enough it proves fatal in four or five days by coma or by some acute serous inflammation; most generally, however, it passes into a more indolent form. The acute form of the disease is not generally developed in the marked manner above described; more frequently dropsy or some other secondary affection is developed soon after an attack of rigour with no other concomitant symptoms than scantiness and an albuminous impregnation of the urine. In many instances the disease appears to commence as an acute affection, when it will be found upon minute inquiry to have existed for several months in a chronic form, upon which acute symptoms have supervened in consequence of exposure to cold.

In the chronic form of the disease, which is very much the most common, there is for a long period, occasionally for many months, no symptom to attract the patient's notice, or withdraw him from his ordinary employments; till at length gradually increasing debility arouses his own anxiety, or the growing paleness of his complexion excites that of his friends, or the supervention of acute symptoms or of some secondary disorder at once unequivocally announces the presence of disease. It will generally be found, however, upon inquiry, that the urine has been very long scanty, or too abundant, or occasionally of a cherry-red colour from a little blood; or, that it was passed frequently and with difficulty, or with positive pain, and almost always, that he was awakened regularly once, or oftener, in the night by the necessity of passing urine; or that there were frequent gnawing pains in the loins or flanks, extending at times to the thighs, or groins, or scrotum. There is, when the disease is fully formed, reduction of the strength; emaciation, not always, however, considerable; a remarkable uniformity, and commonly great paleness, yet on the other hand, at times, a peculiar pale-brownish dinginess of the complexion; defective transpiration as indicated by a dry state of the skin, and the want of perspiration under exercise; often a tendency to drowsiness; often, too, weakness of digestion or even well-marked dyspepsia, not unfrequently attended with sickness or retching in the morning on awaking from sleep; thirst; a diminution of the solids of the urine, and consequently a diminution of its specific gravity or density, together with other variable changes of this secretion; and finally a change in the composition of the blood from a constant diminution of its colouring matter, and not unfrequently the unnatural presence of urea in the same. The morbid alterations of the urine and of the blood above specified, are characteristic of the disease, and with the unhealthy complexion are its only invariable symptoms.

State of the Urine. In the *early stage*, the urine is reduced from between thirty-five and fifty ounces, the natural average, to eight, ten or twelve ounces daily, sometimes to two or three ounces; sometimes it is entirely suppressed. Sometimes it presents a blood-red tint of more or less intensity; or, occasionally, the tint is so deep as to render it opaque; in a few instances, clots of blood are intermingled with it; and still more rarely, the fluid discharged seems to consist of nothing but blood, which partially coagulates. Hæmaturia from other causes may be distinguished by the urine ceasing to present coagulability so soon as it ceases to be red. Most frequently of all, the colour of the urine deviates little from that of health; it is then often rendered muddy, however, or opalescent by the presence of fine light particles of modified mucus. Lithic acid or lithate of ammonia is sometimes deposited when the urine cools. Occasionally, but very rarely, except from decay of the urine by long standing, there is a white sediment of the earthy phosphates. When loaded with albumen, the urine froths easily, or may be blown into bubbles. The urine is unusually subject to decay, and its coagulation by heat may thus be prevented. In the truly incipient stage, the density or specific gravity lies always within the limits of health. The specific gravity of healthy urine varies from 1016 to 1030, where no temporary cause exists to occasion an increase of the watery part of the secretion, while *the average* is 1024 or 1025, the specific gravity of water being 1000. In the earliest stage of granular degeneration of the kidneys, the urine is commonly from 1021 to 1025, rarely as low as 1016, except where its quantity rather exceeds than falls short of the natural average. The most remarkable property of the urine, in the present stage, is coagulability under the action of heat and acids, owing to the presence of albumen, which, sometimes, however, suddenly disappears for a time.

In the early stage, likewise, the absolute quantity of the natural solids of the urine voided in a given time, is much diminished, hence the density of the urine, after the albumen, its unnatural ingredient, has been separated from it in the early stage, falls from four to seven degrees. Twelve ounces of urine, of the density 1016 after separation of the albumen, will probably constitute a fair estimate of the daily discharge in a very great proportion of cases at a moderately early stage; and this estimate infers the diminution of the daily discharge of solid matter to at least one-fourth, or nearer one-sixth of the healthy average.

In the *advanced stage*, the urine is very often but little reduced below the standard of health; frequently it rather exceeds than falls short of it; in not a few cases it is much increased, even sometimes to 130 ounces daily, when diuretics nor articles of diet have produced the effect. The quantity is reduced, however, where inflammatory symptoms supervene, and especially when coma occurs. It is also reduced when granular degeneration has been allowed to go on to an excessive extent, without life being destroyed, as more usually happens, by some secondary affection. Sometimes, in the latter case, the urine falls to twelve or sixteen ounces daily, for a long time before death. In one very remarkable case, the quantity, for nine days before death, did not exceed one ounce daily. The colour of the urine is sometimes nearly natural; much more frequently it is very pale, and in the most advanced cases so pale as to be almost colourless; not unusually it is for a time cherry-red, obviously from blood, or reddish brown, or pale smoke-brown, all of which colours give place to the natural straw tint when the albumen is coagulated by heat; occasionally it is of a peculiar lemon, or rather orange tint, which also disappears on coagulation of the albumen. Slight muddiness, probably from modified vesical mucus, very commonly exists; in a few rare cases, perfect mucus, in viscid strings, is discharged. Sometimes lithic acid, or the phosphates, are deposited in this, as in the early stage.

As the disease passes beyond the early stage, and the granular deposition proceeds, the density of the urine sinks to 1016, 1014, 1012; and when the case has reached the advanced stage, it is usually as low as 1010, 1008, or 1007, even when the quantity is rather under than over the natural standard; in one case it was only 1004, where the quantity of urine was not in excess; in another, noticed by M. Solon, it was 1003, but the urine amounted to forty-four ounces; in a single case, also, it was once found as low as 1001.5, but in that case there was no certainty that the urine was free from admixture with other liquids. A low density, however, is an essential character of the urine in the middle and final stages, whether its quantity be great or small; and the density goes on diminishing as the disease advances.

It is a great mistake to suppose, as some do, that the proportion of albumen in the urine, necessarily increases as the disease advances; the very opposite is the general rule. When the disorganization has proceeded very far, slight haziness is all that heat or acids will occasion; and often enough, no alteration whatever is produced; but in such circumstances, however, the incidental recurrence of acute symptoms, with irritation of the kidneys, may cause the albumen to reappear in abundance for a time. Generally, the amount of albumen varies a great deal more than in the early stage; most generally it separates in a few fine flakes, which subside after agitation, so as to occupy from a fourth to an eighth of the mass. Sometimes the albumen will disappear temporarily, at other times permanently, as already stated.

The presence of albumen may be detected by various chemical tests, such as heat, nitric acid, corrosive sublimate, and ferro-cyanate of potash; all of which separate a flaky precipitate. But the most convenient, and the most conclusive, are the first two; namely, heat, and nitric acid. At a temperature a little above 160° Fahr., the urine, in the early stage, and generally, too, in the advanced stage, becomes turbid, and complete coagulation of the albumen gradually takes place, as the heat rises to ebullition. If there is any deposit of lithic acid, or lithate of ammonia, this, in the first instance, is dissolved, and the urine becomes clear. Muddiness from other causes, more especially from modified mucus, is not thus dissolved, however; and hence, where the muddiness is considerable, it is often well to filter the urine before testing it. A tube about one-third of an inch in diameter is much better than a spoon for testing the urine. To promote the future study of the disease, the following nomenclature of the different degrees of coagulability is strongly recommended: 1. *Gelatinous by heat;* where the urine is converted into a gelatinous mass. 2. *Very strongly coagulable;* where a precipitate distinctly separates by heat, and yet occupies, in twenty-four hours, the whole, or nearly the whole, fluid. 3. *Strongly coagulable;* where the precipitate, in twenty-four hours, occupies half the volume of the fluid. 4. *Moderately coagulable;* where it occupies a fourth of the fluid. 5. *Slightly coagulable;* where it occupies an eighth of the fluid. 6. *Feebly coagulable;* where it occupies less than an eighth of the fluid. 7. *Hazy by heat;* where the urine becomes cloudy, but does not form visible flakes a few seconds after being boiled. In appreciating the last degree of impregnation, it is convenient to heat only the upper half of the fluid in the tube.

It is advisable to make use of nitric acid as a test, as well as heat. For first, if the urine is ammoniacal, the action of heat may be prevented, even where the proportion of albumen is great. Secondly, heat alone may occasion a flaky precipitate, where there is no albumen, owing to the superabundance and consequent separation of earthy phosphates; a deposition which nitric acid will both prevent and remove. And thirdly, nitric acid alone may occasion a flaky precipitate of lithic acid, which, however, is re-dissolved by an elevation of temperature, while albumen remains insoluble. The urine should be always tested, if possible, before it decays and becomes ammoniacal, as not only the coagulable power of heat is prevented by the decay of the urine, but sometimes nitric acid fails to separate a coagulum, owing, probably, to the albumen itself having undergone more or less change, along with the other principles of the urine. It should have been mentioned that nitric acid separates the albumen always in the form of flakes or pulp. Should the urine be slightly alkaline, the coagulating power of heat may be obtained by previously adding, in drops, a very small portion of some acid.

Healthy urine contains either no albumen, or a quantity so small, or so much altered from the ordinary properties of that principle, as to render it undistinguishable by the best chemical tests. But a variety of irritating causes may lead to an albuminous impregnation. Any cause which may occasion hæmaturia, or a discharge of blood from the kidneys or bladder, will, of course, introduce albumen into the urine. Indigestible articles of food, a cantharides blister, the erythismal action of mercury, and pregnancy, may produce an albuminous secretion from the kidneys.

M. Solon has discovered that albumen is found in the urine for a short time during the period of crisis of some acute and inflammatory diseases. But there is no cause by which an albuminous impregnation of the urine is so frequently induced as by granular degeneration of the kidneys, and there does not appear to be any cause whatever, which will occasion the enormous accumulation of albumen in the urine, almost invariably observed in the early stage of this disease, when it commences with acute symptoms. Although, therefore, the simple presence of albumen does not alone indicate the disease, yet its presence, in large quantities, may be considered as decidedly pathognomonic.

A diminution of the solids of the urine, both relatively and absolutely, is an invariable character of the urine in the advanced stage of the disease. The total solids of the urine, in a state of health, are 67.7 parts in one thousand, when the density is 1029, and the quantity thirty-four ounces avoirdupois. In the disease, the proportion of solids in one case was reduced to twenty-four parts, where the quantity of urine, in twenty-four hours, amounted to twelve ounces, and the density was 1009.5. In another case, the proportion of solids was fifteen parts in one thousand, when about thirty-six ounces of urine were passed at the very low density of 1006.9. In the latter case, the total solids discharged in the day were reduced to one-fifth, and in the former to one-twelfth, of the healthy average.

It appears, then, that the pathognomonic characters in the advanced stage, are a great reduction in density, and an equal reduction of the daily discharge of solids, frequently associated with the presence of albumen in small quantity. Deviations are, however, more apt to occur here than in the early stage. The most important are the frequent absence of albumen, and the daily discharge of the full amount of solids, owing to spontaneous diuresis. The only character absolutely invariable is great lowness of density, with, of course, a reduced *proportion* of solids.

State of the Blood. — Granular disorganization induces a variety of important changes in the composition of the blood. In the early stage it coagulates with a thick, firm, and commonly cupped, buffy coat; the serum is usually somewhat lactescent, and yields to sulphuric ether, when agitated with it, a small portion of concrete oily matter, which seems to differ little from the fat of the cellular tissue.

The most remarkable alteration, however, of the serum, which appears to be an invariable character in the early stage, is a great decrease in density, together with a corresponding reduction of its solid ingredients. This state of the serum, with certain exceptions, seems to be peculiar to that stage. The natural density, 1029 to 1031, is reduced to 1022, often to 1020, and occasionally to 1019. The solid contents are reduced from 100 or 102 in a thousand, to 68, 64, or even 61. The reduction appears to affect equally the albuminous and saline contents of the serum. It occurs only when there is an abundant discharge of the albumen with the urine; but then invariably. On account of the loss of albumen, the serum coagulates loosely when heated.

Another not less remarkable change in the composition of the serum, is the presence of urea in it, and in large quantity. Urea is invariably found in the serum at all stages of the disease, when its natural discharge by the urine is diminished materially, that is, to about one-third of its usual amount. When the quantity of the urine in the early stage, from the effect of treatment or otherwise, equals or exceeds what is natural, urea cannot then be detected satisfactorily, although, still, traces of its existence may be elicited. The most certain way of separating it from the blood, is to evaporate the serum to perfect dryness in the vapour bath, to boil the pulverised residue in absolute alcohol of 796, to drive off the alcohol, to dissolve the residue in water, which must be afterwards filtered through a previously moistened filter, for the separation of fatty matter, and lastly, to concentrate the watery solution to a small bulk, and add half its volume of nitric acid in a watch-glass. Sometimes immediately the whole mass becomes solid, as it were, by the abundant crystallization of the nitrate of urea; sometimes a scantier crystallization forms in a few minutes, or an hour at farthest; and, occasionally, the only indication of the presence of urea is some effervescence, attended with the peculiar odour which accompanies the action of the acid upon this animal principle, as it exists in urine. In using absolute alcohol instead of the rectified spirit of the shops, the crystallization is rendered more distinctly foliaceous, and more free from colour.

The proportion of fibrin in the blood is usually increased in the early stage from its greatest natural quantity of *fifty-two* parts in ten thousand, to eighty-two parts, or less, provided inflammatory action exists. The degree of buffiness of the blood is a measure of the increase of fibrin.

Hæmatosin, or the colouring matter of the blood, according to Lecanu, constitutes, on an average, 1160 parts in ten thousand in the female, and 1325 parts in the male, in a state of health. Its proportion in the early stage of the disease is little, if at all, affected.

It follows, then, from these statements, that the condition of the blood, in the early stage of the disease, is characterized by the low density of its serum, and a defective proportion of albumen, by the presence of urea, by the frequent increase of fibrin, and by the proportion of hæmatosin being unaffected.

In the advanced stage of the disease, however, the most remarkable character of the disease is the reduction of the colouring matter of the blood, so as that it amounts ultimately to not more than one-third of the healthy average. The reduction is far greater than can be accounted for by the extent to which bloodletting, which also tends greatly to reduce the quantity of hæmatosin, has usually been carried; as it is found to be very great where no blood at all has been lost previously to that which is analysed. No other morbid change is invariably occasioned in the blood by the advanced stage of the disease; but frequently the solids of the serum are also defective, sometimes, on the contrary, in excess; and not unoften, especially if the disorder is very far advanced, the serum likewise contains urea.

Secondary Diseases. — Granular degeneration of the kidneys may exist from first to last, without the occurrence of any secondary disease. It is, in particular, by no means essential that dropsy should always accompany it, as some incorrectly imagine. Nevertheless, the primary disease seldom continues long without other important diseases being superadded. It is surprising how many cases, otherwise obscure in their nature, are made at once intelligible, by being discovered to be secondary to the disorder in question.

The secondary affections, of most frequent occurrence, are dropsy, diarrhœa, pleurisy, and peritonitis; pneumonia, catarrh, dyspepsia, and chronic vomiting; coma, with other affections of the head; chronic rheumatism, organic diseases of the heart, and organic diseases of the liver.

It is well known that *anasarca* was the disorder which first drew the attention of Dr. Bright to granular disorganization of the kidneys; and it is still the disorder which leads more frequently than any other secondary affection, to the discovery of the disease in these organs. The proportion of dropsies dependent in part, or wholly, upon organic disease of the kidneys, is very great. It has been found to be in Edinburgh three-fourths, and in Strasbourg one-half.

Anasarca is so very generally present at one period or another of the disease, that it has commonly been viewed as one of the essential symptoms.

All cases of anasarca, where the œdematous parts do not pit on pressure, appear to be connected with granular disorganization of the kidneys; also all dropsies where the urine is steadily above the healthy standard in point of quantity, except in the instances of dropsies attending the advanced stage of saccharine diabetes; and likewise it is probable that all dropsies, where the urine, not being above the healthy standard in quantity, is also below 1010 in density, whether the urine be albuminous or not, occur in connection with the same disease. Those cases of anasarca which do not pit on pressure, are commonly of the nature of acute or inflammatory dropsy. There are many more cases, however, of kidney dropsy, not of an inflammatory character, in which the anasarcous swelling pits readily.

Next in point of frequency to anasarca, perhaps even on a par with it in that respect, is *dyspepsia*, which, at times, puts on the form of chronic vomiting. The affection of the stomach is often greatest when the circulation is unusually languid, the morbid action in the kidneys purely chronic, and all other organs free from acute disease.

Diarrhœa is a very common secondary affection. It is sometimes a mild affection. It is sometimes a mild affection; and often it is excessively frequent and exhausting. Diarrhœa, and dysentery, which sometimes precedes it, are much more frequent and obstinate complications in Edinburgh than in London and Paris.

Pleurisy and peritonitis, on the contrary, are much more frequent in London and Paris than in Edinburgh. Pleurisy is the most frequent of the serous inflammations; peritonitis is, upon the whole, rare; pericarditis is also seldom seen.

Pleurisy and peritonitis sometimes pursue so latent a course that, without the aid of percussion and auscultation, or inspection and palpation, they would probably escape attention altogether.

Catarrh, both acute and chronic, is a frequent complication. Except in the summer months, there are few cases without more or less of it. It is often associated with pulmonary emphysema, but, also, frequently exists independently of such organic derangement; it is, however, most severe when thus associated.

Among the most formidable of the secondary diseases, are *coma* and *apoplexy*, or various diseases of the head more or less allied to apoplexy. It is not, perhaps, quite correct to consider these affections as secondary, for death by coma seems to be the natural termination of the disease, as already stated, where life is not cut short by some other affection of an incidental or secondary nature.

Among the more frequent of the secondary affections, may be enumerated *chronic rheumatism*. It is more generally met with where anasarca is inconsiderable, or where it has been removed. It is for the most part, a troublesome and obstinate secondary complaint.

Pneumonia appears to be a rare complication. Two cases which were very severe, were yet removed by treatment; two others were latent, and not discovered till after death.

With the exception of anasarca, and perhaps catarrh and dyspepsia, no complication is more common than enlargement and obstruction of the heart, or enlargement and tubercular derangement of the liver, or organic disease in both viscera at once.

The symptoms referable to the heart indicate, sometimes, enlargement of the left side, sometimes of both; and the enlargement is often attended with the signs of valvular obstruction. The disease of the head is sometimes the primary disease, and the disease of the kidneys a secondary affection. Disease of the heart, especially when somewhat advanced, renders other secondary diseases, particularly catarrh and anasarca, much more intractable.

The complication of *diseased liver* is, perhaps, even more frequent than that of diseased heart. If the liver is enlarged, percussion will readily define its extent; but if not, as is usually the case in tubercular disease of that organ, the attention of the physician may not be called to it during the life of the patient, and he may only discover disease at the *post-mortem* examination. The ordinary symptoms of diseased liver, such as pain and tenderness across the stomach, and under the right ribs, sense of weight in the latter quarter, sympathetic pain in the back, weakness of digestion, dinginess of complexion, and the like, are far from being always present, and must also be considered as more or less equivocal, because they are often occasioned by disease of the kidneys alone. Whenever ascites exists to a great degree, or forms the prominent dropsical affection, there is very great probability that the liver is seriously disorganized, even though all the other usual signs are dubious.

Granular degeneration of the kidneys, at a moderately advanced period of its progress, appears to render the body peculiarly open to the invasion of some *epidemic diseases*. The kidneys have been frequently found far advanced in granular disorganization in cases of death from typhus, which for some years has been extensively epidemic in Edinburgh. And the same morbid appearance was found in a considerable proportion of the fatal cases of malignant cholera.

Causes of the Disease. — In the generality of cases, or those of the chronic form, the disease establishes itself so silently and gradually that the exciting cause is inappreciable. In the great majority of acute cases, the disease is referable to some decided exposure to cold, or to cold and wet together; in other cases, however, of this form, no adequate exciting cause can be discovered.

In the greater proportion of cases, namely, in almost all those of a chronic nature, as well as in a few where the symptoms are acute, the disease appears to be formed gradually, without any exciting cause, under the influence of some depraved state of the general constitution. And even in many acute cases, arising apparently in decided exposure to cold, the disease has silently originated in some constitutional cause at an earlier period, whereas recent exposure has merely superadded some acute secondary affection, or given an acute character to pre-existing essential symptoms.

Of all predisposing causes, none are so influential as intemperance. The cases referable to excessive or more moderate intemperance, amount to three-fourths or four-fifths of the whole. The effect of ardent spirits in stimulating the kidneys to augmented secretion, will, when it is used for some time, though not to great excess habitually, account for its deleterious influence.

The scrofulous diathesis is so constantly found associated with granular disorganization of the kidneys, that it seems to exercise even more influence over its production than intemperance. However this may be, the disease is in no instance developed with greater certainty than where habits of intemperance have been engrafted upon a strumous taint of constitution.

Among the predisposing, if not even among the exciting causes, may be mentioned *scarlatina*. A very large proportion of all cases of dropsy consequent upon scarlatina, are connected with granular disorganization of the kidneys, in more or less of which, disease of the kidneys has no doubt pre-existed.

In reference to the *prognosis*, it need only here be said that even where the disease has reached a pretty advanced stage in its progress, the patient may be brought by due treatment into such a condition, as to live without material uneasiness for a term of years, of which our present knowledge cannot well settle the limit, — provided he avoid improper exposure to cold, intemperance, and other irregularities in regimen. It is impossible, perhaps, to remove the disorganization. But its farther advancement may be checked for a time, before it has proceeded so far as to be incompatible with the enjoyment of tolerable health and comfort. Such is, not unfrequently, the result where no other secondary disorder has fastened on the constitution, except dropsy.

In regard to the secondary affections, they almost all present the character of obstinacy when concurrent with granular destruction of the kidneys, particularly dyspepsia, diarrhœa and dysentery, chronic rheumatism and catarrh, but especially diseased heart and diseased liver. Of all secondary affections, the most manageable in the generality of cases is dropsy, although extremely apt to return, especially when the primary disease is far advanced.

Treatment. — Granular degeneration of the kidneys in the acute form is essentially a congestive or inflammatory disorder, and demands vigorous antiphlogistic remedies, whether complicated, or not, with other recent inflammations, such as pleurisy, pneumonia, or the like. General bloodletting should be carried so far, at once, as to affect strongly the pulse and induce approaching fainting ; and it should be subsequently repeated according to the state of the circulation, and accompanying local symptoms. The state of the blood should be examined after the first bloodletting, to determine the quantity of hæmatosin, since it will indicate whether the disease is in its early or in its advanced stage, as during acute symptoms superinduced on the advanced stage of the disease, active depletion must be used with much greater reserve.

Local depletion, in the form of leeches to the upper and fore-part of the abdomen, or still better, of cupping to the loins, is especially serviceable in removing the rending pains in the loins, and the dull heavy pain and tenderness in the pit of the stomach and across the flanks, which are occasionally troublesome rather early in the disease, even when the circulation is little affected.

After depletion, general or local, has been pushed to the requisite extent, counter-irritation, in the form of blisters, issues or setons, to the loins is advisable.

Diaphoretics, so strongly recommended by Dr. Osborne, in preference to diuretics, may be administered with decided advantage. The most efficient diaphoretic is Dover's powder in the dose of five or eight grains three times a day. With this should always be conjoined the warm bath every twenty-four or forty-eight hours, so important is the re-establishment of the healthy action of the skin. The acetate of ammonia, prescribed by some as a diaphoretic, is more apt to act as a diuretic, and is not as useful as Dover's powder in removing pain, irritability, and restlessness. The latter may often be attained equally well by the extract of hyoscyamus. James' powder is also a good diaphoretic. Diaphoretics, however, have proved far more useful in the hands of Dr. Osborne than in those of Dr. Christison.

Laxatives are occasionally useful, particularly the compound colocynth mass, with half its weight of extract of hyoscyamus. Brisk purgatives, which are sometimes very useful in aid of other antiphlogistic remedies, should not be repeated too frequently, otherwise a troublesome, obstinate diarrhœa may be induced, to which there is a natural tendency in the progress of the disease. In certain secondary affections, however, more especially in dropsy, or when coma threatens, active cathartics often prove the only effectual means of averting the pressing secondary evil.

The general antiphlogistic regimen as to diet, exercise, and the like, should be insisted upon, and by no means relaxed till the force of the circulation has been broken. Subsequently, vigorous prophylactic measures should be adopted to prevent a relapse. Among these the most important are warm clothing, and careful protection against cold and damp ; nutritious food of easy digestion, and not in excess ; abstinence from spiritous liquors, with a very temperate use of wine, if used at all ; regular brisk exercise, and occasional warm bathing, — in short, all such means as may best contribute to promote cutaneous transpiration, and moderate the demand upon the kidneys.

Diuretics are proscribed in the treatment of the acute primary stage of the disease by the best authorities; and some forbid their employment in the secondary affections, in a part of which, however, no other remedies are so promptly efficacious, and experience has proved that they have not, in such cases, increased the original disease of the kidneys, as far as symptoms could indicate their influence.

Mercury is also prescribed in this disease, in the primary stage of which mercurial erythism with increase of the albuminous secretion is readily induced, by its incautious administration. It may be carefully used, however, in small doses, to promote the action of the diuretics and cathartics, and should its effect upon the mouth occur, under such circumstances, this has not appeared particularly unmanageable.

The treatment of the advanced stage of the disease, consists of the prophylactic measures already advised to prevent a relapse of the acute stage, and can only arrest the further progress of disorganization, and thus secure the continuance of pretty good health for a considerable time, with great liability, however, to an increase of the disease from undue exposure, or any departure from the proper prophylactic measures.

The *treatment of the secondary diseases* is fully as important, or even more so, than that of the original disease. They greatly impair the general health and endanger life, and are more under the influence of remedial means.

Their treatment is identical with that which is resorted to for the removal of the same disorders in ordinary circumstances, that is, when they are primary in their nature. The employment of the usual remedies, however, is subject to important modifications, or must be governed by peculiar rules, which would here be introduced with great pleasure, as they are, like the whole work, highly practical, but the space allotted has already been exceeded. This work is one of a most practical character, and cannot be too highly recommended to every member of the profession. There are very few to whom it will not most vividly recall obstinate cases of disease which could not have been fully understood without some previous knowledge of the researches of Bright, or of those few who have so ably followed in the path of observation which he pointed out in 1827, among whom, besides Christison, may be very honourably mentioned, James Gregory, Osborne, Rayer, and Martin Solon.

The intention previously expressed of employing, as far as practicable, in the foregoing analysis, the language of Dr. Christison himself, has been so fully carried out, that it consists almost exclusively of abstracts from his valuable work. J. A. W.

A Treatise on the Diseases of Children. By M. C. Billard, M.D. Paris; founded on recent Clinical Observations and Investigations in Pathological Anatomy. Translated from the Third French Edition, with an Appendix, by James Stewart, M.D.

Notwithstanding the extraordinary progress that has been made of late years in pathological anatomy, and the zeal with which the morbid results of disordered action have been investigated, in nearly every organ of the human body, yet these inquiries have been almost universally limited, to the effects of disease in adults, while the still more interesting changes produced in the organs of the infant and child, either by the same diseases, or by those peculiar to those states have been neglected. We think we shall be sustained in calling them *more interesting*, if it be considered that, in the first place, they are far more prevalent, and in the next, that as the organs of childhood are in a rapid state of developement, that during this period all the powers of nature are at work, building up the edifice, the alterations of structure, induced by deranged action are more evident, more rapidly effected, and their *modus operandi* more exposed to our observation than the comparatively slow and tedious modifications of the adult system; it would be, therefore, not unreasonable to anticipate, that a careful and minute examination of the morbid anatomy of the child may throw considerable light on the more obscure pathology of the adult. Although fully impressed with the justice of this view, yet we see the almost impossibility of making an extended series of observations, with merely the opportunities afforded by private practice; every physician is aware of the unconquerable aversion in parents to the examination of their dead children, therefore, it is only in hospitals and other institutions especially dedicated to the treatment of children, where this all important object can be attained. The profession, then, and we may add, every parent, is deeply indebted to M. Billard, for having entered this all but uncultivated and yet fertile field.

The work of M. Billard is the first extended attempt to investigate the pathological state of the organs in connection with the symptoms of the diseases of infancy and childhood; it has rapidly passed through three editions, and obtained deserved celebrity for its author. M. B. was placed in a peculiarly advantageous position as "Interne" of the Foundling Hospital at Paris, where he had the opportunity to observe closely practice of the celebrated Baron, and to examine the dead bodies of those children who sank under the violence of their disease. "In one year he wes enabled to examine the condition of 5300 infants, and to extend his anatomical researches to nearly 700." The author appears to have made use of his opportunities with care, zeal, and industry, and has produced a work which ought to be in the hands of every practitioner, as although the profession have the valuable and practical works of Underwood, Gardien, Dewees, Eberle, Burns, &c.; yet, as we have already said, the work of the present author is on entirely new ground.

The principal divisions of the work are as follows: "The considerations of the phenomena which are presented upon examining externally the condition of the child." This is a highly important subject, which perhaps is not sufficiently treated in the present work, but we shall hereafter make some observations on it. "Diseases of the skin." The author proposes a new method of classifying cutaneous phlegmasia, and gives a brief synopsis of the various cutaneous diseases. "Diseases of the digestive apparatus." This is a very valuable portion of the work, and illustrated by a large number of autopsies. "Diseases of the appendages of the intestinal canal." "Diseases of the urinary apparatus." "Peritonitis." "Ascites." "Hernia." "Diseases of the respiratory apparatus." "Diseases of the circulatory apparatus. "Of the cerebro-spinal apparatus." "Of the organs of locomotion." "Of the organs of generation." "Of the lymphatic system." "Of the eyes." "Jaundice of infants." "Of accidental tissues," and "on alteration of the blood." In addition, there is a select formula for infants, and the French work concludes with a medico-legal dissertation on viability, considered with reference to the pathology of new-born children.

Like most French authors, the writer gives in many parts of the work very meagre details of treatment, but this has been in some degree compensated by judicious and practical notes, added by the translator, in an appendix, which very much augments the value of the book. This work has been translated by Dr. James Stewart of this city, who has proved himself well qualified for the task, by the excellent manner in which he has executed it, and deserves great credit for having thus insured a far more extensive circulation to the valuable information communicated by the author, than it would probably have obtained in the original. The New-York edition has been stereotyped in a superior manner, and will add to the reputation of the enterprising publisher.

As our copy has only been in our possession two or three days, it has been impossible for us to do more than give this very brief and general sketch of its contents, but it is our intention, in our next number, to give a full analysis of it in detail.

J. C. B,

A Treatise on the Eye, containing Discoveries of the Causes of Near and Far-sightedness, and of the Affections of the Retina, with Remarks on the Use of Medicines as Substitutes for Spectacles. By William Clay Wallace, Occulist. Second Edition. New-York, 1839, 12mo. pp. 88.

The author of this little volume, about three years ago, published a popular treatise on the "Structure of the Eye with Reference to Natural Theology." The present work is a modification of this, with the addition of some original observations, which give it a special claim to the attention of the profession.

The author has applied himself, with some success, to the minute anatomy of the eye, and, in the words of Sir David Brewster, who, some time since, presented a series of his dissections to the British Association, one of the most important results of his investigations is the discovery of fibres in the retina. We would also add, that his account of the apparatus by which the eye is adjusted to distances, and his observations on the pathology of the retina, are equally novel and important.

About three-fourths of the volume are taken up in describing the apparatus of vision, and in applying this to illustrate the wisdom of the Creator, by the admirable adaptation of means to ends, in the structure of the eye and its appendages.

In the next section, the author has given an exposition of his peculiar theory, as to the means by which the eye is adjusted to distances: and, adopting the opinion of Kepler, that this adjustment is principally effected by the movement of the crystalline lens, he goes on to describe the organs by which, as shown by his own investigations, this movement is accomplished. These organs vary in the different orders of animals, according as the crystalline lens or magnifier, is greater or less than a sphere, or perfectly spherical.

"In the shifting of an ordinary magnifier, we must be careful to keep every part of the edge at an equal distance from the space it formerly occupied, or it will be turned away from the object: we cannot, therefore, adjust it by traction at a single point. What happens in this respect to a magnifier which is less than a sphere, will also happen to one which is greater; but with a perfect sphere it is immaterial whether the attraction be made at a single point or at a number."

With that economy, therefore, which exists in all the works of nature, we find only a single instrument for adjusting the magnifier when one only will answer the purpose: that is, when the magnifier is perfectly spherical, as in the striped bass, the halibut, and many other fishes; but in man, and other animals, in which the magnifier is less than a sphere; and in the cuttlefish, and such other animals as have a magnifier greater than a sphere, one instrument only would not answer the purpose; and accordingly we find as many of them as can be packed together whenever their services are required.

"In a large perch found on the American coast, called the Striped Bass, there is a triangular muscle attached to the sheath of a nerve which enters at the back of the eye, and runs along a division at the lower part of the retina. One of the angles of the muscle is fixed to the magnifier: and another, after passing through a loop at the back of the coloured circle round the pupil, is inserted into the membranes of the vitreous humour. When the muscle contracts, the magnifier is drawn forward and adjusted to near objects, while it is drawn back again or regulated to distant objects, by the elasticity or spring of the membranes of the vitreous humour."

"In the halibut, the muscle, which is of a different shape, and larger than in the striped bass, does not pass through a loop, but lies diagonally across the eye, having one attachment to the magnifier and another to the coloured circle round the pupil. The magnifier is drawn forward when the muscle acts, and when the former is removed, it is drawn back again by the elasticity of the membranes of the vitreous humour."

In those animals in which the magnifier is either greater or less than a sphere, according to our author, the adaptation of the lens to different distances in vision, is mostly accomplished by retraction or lengthening of the ciliary processes, and their immediate attachments.

"Immediately behind the coloured circle round the pupil, and attached to the external margin of the case of the magnifier, there are about seventy or eighty vascular membranes, resembling leaves, and called the ciliary processes, which are placed round the magnifier, like the petals of a flower." * * * * * *

"At the root of the adjusting leaves there are muscles with radiating fibres, which are covered by a white ligamentous substance, and a thin dark skin which lines the eye, and keeps them from being readily observed. The vessels which supply the adjusting leaves, pass at the junction of the muscle — a spot where they are not affected by pressure — while the returning veins are so situated that the progress of the blood as it passes through them may be arrested."

"When the muscles contract, an additional quantity of blood is collected in the adjusting leaves, which being consequently elongated, draw forward the margin of the case to which they are attached, and, of course, the magnifier with its envelopes, in this manner, adjusting the organ to the vision of near objects, while it is drawn back or adjusted to those which are distant, by the elasticity or spring of the membranes of the vitreous humour, which radiate from the magnifier."

This apparatus he has further illustrated by referring to the anatomy of the eye of the lynx, the turkey-buzzard, and other animals. He next proceeds to explain the uses of the *marsupium* or fan-like membrane found in the eyes of birds. "This," says he, "arises at the back of the eye, where it passes through a division of the retina, and is inserted into the vitreous humour not far from the foremost or inner edge of the magnifier, out of the way of direct vision. The eyes of birds are directed to each side to afford the wide field of vision which their necessities require; yet when this membrane contracts it will alter the position of the magnifier by drawing back the inner edge, and thus enable the bird to look straight forward. From numerous dissections, I believe it to be established, that the marsupium becomes smaller in proportion as the direction of the eyes becomes parallel."

The third section of the work has a practical bearing on the means best calculated to preserve the vision unimpaired, and on the improper use of spectacles. It is generally believed that as age advances the cornea becomes flattened, and that hence arises the necessity for spectacles. Such, however, is not our author's view of the subject. The eye, says he, is seldom flattened by age, but, on the contrary, it is often of unusual convexity, in consequence of the contraction of a portion of the circumference which forms a semi-opaque ring, well known to occulists under the name of *arcus senilis*; yet the persons thus affected are obliged to wear convex spectacles. According to his view of the subject, the vision of aged people becomes lengthened by the impaired action of the adjusting apparatus. As this apparatus becomes stiff with age, the magnifier cannot be brought sufficiently far forward to adapt the eye to near objects, and the person is obliged to remedy the defect by using glasses. Any cause that tends to relax the adjusting apparatus, as grief, general debility, excessive use of the eyes, &c., will also impair the vision: — hence the effect of certain medicines, as stramonium, deadly nightshade, henbane, &c., in accommodating the eye to the vision of distant objects.

The modes of treatment to be resorted to for relief of far-sightedness, are to be drawn from the causes giving rise to it. Our author is opposed to the indiscriminate use of spectacles in such cases. We cannot enter into the details of the practice he suggests — the indications which he has laid down being of themselves sufficient to point to this; and as his work has an eye towards the general reader, he is not, perhaps, as definite in this department of his subject as he might have been.

He fixes the cause of shortsightedness, in most cases, also in the adjusting apparatus. "Shortsightedness is far more common among the higher than among the lower classes of society, and most frequently occurs about the time of puberty — a period when there is often a morbid excitement of all the erectile tissues. As a portion of the adjusting apparatus of the eye belongs to this class, it partakes of the general erethysm of the system, and occasions the complaint by drawing the principal magnifier too far forward."

The latter part of the volume is taken up with an inquiry into "the Proximate Cause of Affections of the Retina." This is the substance of an essay which was read, about two years since, before the New-York Medical and Surgical Society, and contains some important views on the pathology of the retina.

In conclusion, we would remark that the work is interspersed with a great number of wood-cuts for illustrating the structure of the eye and its appendages. In taking leave of our author, we would respectfully suggest to him, that the professional, rather than general reader, should be the one to whom those who claim to be improvers in pathology, or discoverers in anatomical or physiological science, should address themselves.

J. W.

Intermarriage; or, the Mode, in which, and the Causes why, Beauty, Health, and Intellect result from certain Unions, and Deformity, Disease, and Insanity from others. By ALEXANDER WALKER. New-York, J. & H. G. Langley & Co., 1839. 8vo. pp. 384.

THIS singular work is evidently the production of an acute and observing mind, which has entered upon a comparatively new field of study. We confess that we are unable to admit all the propositions that it contains, not because they appear contrary to reason, or even to facts, but because the subject is a new one. If we have been startled and amused, rather than instructed, we are far from thinking the subject a mere matter of speculation; we are satisfied that it is not so, but that it opens a path of observation which must lead to results of signal benefit to mankind. Some of the conclusions to which our author has arrived, and which will serve to convey a correct idea of the manner of the work, are the following: 1st. *Where both parents are of the same variety,* (or race) one parent communicates the anterior part of the head, the osseous or bony part of the face, the forms of the organs of sense, and the whole internal nutritive system. The other parent communicates the posterior part of the head, the cerebellum, and the whole of the locomotive system. 2d. *Where each parent is of a different breed or race*, and both of equal age and vigour, *the male* gives the *back-head* and *locomotive organs*, and the *female* the *face* and *nutritive* organs. 3d. That in *in-and-in breeding* (i. e. where both male and female belong to the same family,) the *female* gives the locomotive system, &c., and the *male* the vital system, &c.

The chapter on the *law of sex* is very obscure; the author, so far as we can understand him, appears to say that the reproductive organs might be expected to go with the vital or nutritive organs; but this is not always the case; the parent possessing the most vigour will stamp the sex upon the offspring.

With regard to the communication of *mind* by either parent, our author seems to think that the parent giving the forehead and the organs of sense, &c. bestows also the organs of sensation and observation. While that giving the back-head communicates the organs of passion and volition, and that the actual communication of either in a given case, depends very much on the relative condition of the parents during the act of reproduction; one sex being always relatively active, the other relatively passive, the former will communicate passion and volition with locomotion, &c., the latter, or more passive, the organs of observation, sensation, and nutrition.

We doubt whether we have made a very clear statement of the above propositions. The truth is, the author, with all his acuteness, has sometimes travelled beyond his facts, and that, too, in a region full of mysteries — hence, as might be expected, all is not clear as day-light. The work, we are told, has met with a very extensive sale, and yet, we are convinced, no one but a professional man can understand it at all — and he will value it more for giving him new subjects for reflection, than for the actual instruction it has afforded him.

J. A. S.

A Winter in the West Indies and Florida. By an Invalid. New-York, Wiley & Putnam, 1839, 12mo. pp. 199.

We are anxious to notice the above work, because we are satisfied that it contains more discriminating knowledge as to the fitness of these places, as to climate, comfort, &c., than any thing that has yet been published. The author, it is true, is not a medical man, but he is a man of intelligence, observation, and candour. He has evidently written, not to make a book, but to give correct and valuable information. Every one who has examined the subject of climate, as a remedial agent, must, we think, have been forcibly struck with these two prominent facts — the great want of discrimination among practitioners, as to the kind of climate suitable to individual cases, and the great difficulty of obtaining accurate information as to the true merits and condition of particular places. Thus, a patient is sent '*South*' in general terms, to St. Augustine, or Mobile, or St. Croix, or Cuba, just as it suits his convenience, or according as one place happens to be more in vogue than another. And, again, as to the means of obtaining positive intelligence of the climate of particular places, we are obliged to depend entirely upon the opinions of invalids, each taking his own case as the standard. Thus two persons will visit the same spot the same season — one will call it too hot, the other too cold, too damp, or too dry, according to its effects upon his own peculiar case. There is, again, the danger of deception from speculators, who *puff* certain locations because their interest lies there, just as Indian Key, on the coast of Florida, was exalted in one of our papers the last season. The work before us is remarkably free from either of these sources of error. For the account of the climate and advantages of particular places, our limits compel us to refer to the work itself.

J. A. S.

I. *An Introduction to the Study of Chemical Philosophy; being a preparatory View of the Forces which concur to the Production of Chemical Phenomena.* B. J. FREDERICK DANIELL, F.R.S., Professor of Chemistry in King's College, London, author of "Meteorological Essays." London, 1839. 564 pages; numerous wood cuts.

II. *Elements of Chemistry, Theoretical and Practical.* By D. B. REID, M.D., F.R.S. &c., Lecturer on Chemistry. Third Edition. Edinburgh, 1839. 905 pages; 612 wood cuts.

THE Introduction to Chemical Philosophy, is a work admirably adapted by its simplicity and purity of style, and its strict adherence to the Baconian method of instruction, to teach the subject upon which it is written; commencing with a lucid explanation of the laws which govern the existence of matter in general, the forces of attraction and repulsion, homogeneous and heterogeneous cohesion, gravity, elasticity, &c.,

and drawing proofs from the most simple and well known substances, it advances by regular and easy gradations, to the more abstruse departments of chemistry, unfolding each with perfect clearness to the view of the student. Its illustrations of the theory of atomic combination, the law of equivalents, and elective affinities, are brief, yet comprehensive, and so plainly told, that his must be a very inefficient memory who cannot retain them from the first study.

A fair idea of the *mode* of the book may be drawn from the following paragraph, which clearly indicates the *inductive spirit* which prevails throughout.

"§ 439. Our *qualitative* analysis of the classical elements has thus conducted us to such a preliminary acquaintance with the metallic elements as a class, and of the specific characters of the non metallic elements, oxygen, nitrogen, hydrogen, and carbon, as will enable us now to proceed to their *quantitative* relations, and the illustration of the laws which limit the action of chemical affinity in composition and decomposition."

The work before us being intended, as stated in the title, to present a *preparatory* view of chemical phenomena, the author has deemed it proper to omit, except in a small degree, the introduction of the plan of *symbols*, so much in vogue at the present day. This useful method of teaching chemistry is more particularly of service to those who are more advanced in the study, but to the beginner, it only adds confusion to a science already sufficiently complicated. The phenomena of electricity, galvanism, and magnetism, together with the operations of electrolysis; and *lastly*, a more complete explanation of the Atomic Theory of Dalton, and of the *Isomorphism* of Mitscherlich, close the work. Appended to it is an ample glossary, with the etymology of the derivative words.

The "Elements of Chemistry," by another distinguished chemist, seems as if it might have been intended as a *sequitur* to that just noticed, its plan and purposes being such as to present a natural stepping stone from one division to the next, of chemical science. It carries out the plan of the "Introduction," leading the student by the same inductive method to a knowledge of the more abstruse department of the subject, and to a much more full and comprehensive extent. It is in fact a systematic work on chemistry, differing principally from most others in the arrangement of its parts.

"The object of this work," as stated in the preface, "is to explain the principles of chemistry, and to describe a systematic and extended series of chemical experiments, with precise and minute directions for performing them, so as to afford a proper foundation for acquiring a knowledge of the theory of this science, and habits of practical skill in chemical operations."

It will be found to be a valuable assistant, not only to the student, in enabling him to acquire a good practical knowledge of the *modus operandi* of all important chemical manipulations, but to the teacher also, by furnishing him with a new and efficient plan of arrangement for lectures, and with a multiplicity of experiments for their illustration. The method pursued is as nearly inductive as the case will admit. No compound substance is treated of without its elements having been previously explained fully. For example, the book commences with the description of oxygen, as the most widely distributed of all the elements ; then follows hydrogen, and immediately after, the compounds of these two are described. Then we have nitrogen, and the compounds of it with oxygen ; then sulphur and its combinations with oxygen, and so on through all the simple bodies, which are not metallic, constituting class 1st. Class 2d, embraces the consideration of the metals, and their combinations with non-metallic substances and with one another. Vegetable and animal chemistry are embraced in the next division, and subsequently to all this, we are given the " General Principles of Chemistry," (a subject which the student is now, if he ever will be, capable of understanding,) including the phenomena of chemical action, the doctrine of definite proportions, the atomic theory, the theory of volumes, the chemical nomenclature, an explanation of a new system of diagrams for facilitating the study of chemistry, and also of symbols, which " in the present state of chemistry are as important as figures in arithmetic." (p. 624.) Compendious treatises on the imponderable agents are given in continuation of the plan. Last, but not least, to those who desire to become *practical* chemists, are given chapters on the blowpipe tube apparatus, flatglass apparatus, &c., and copious rules for the analysis of organic and inorganic substances, which " will enable those who have not access to the extended arrangements of a well-stored laboratory, to perform test experiments, at the most trifling expense, and to examine practically on a small scale, while studying at home, all the most important phenomena of chemical science." (Introduct.)

The appearance of these two works within a short period of each other, will, if proper attention be paid to their plan, form the commencement of a new era in the art of chemical instruction. The old mode, now in vogue, is full of troubles and difficulties to the young student, arising, we believe, in a great measure, if not wholly, from the manner in which the subject is presented to him. The work of Dr. Reid is rather too bulky for a medical student's text book ; if its size were reduced to that of Turner's Chemistry, whereby its weight and price would both be lessened, we have but little doubt that it would be generally adopted by teachers and students. We should be pleased to see the work of reduction undertaken by some able hand.

J. H. G.

Total Abolition of Personal Restraint in the Treatment of the Insane. A Lecture on the Management of Lunatic Asylums and the Treatment of the Insane, with Statistical Tables, &c. By ROBERT G. HILL, House-Surgeon of the Lincoln Lunatic Asylum, 8vo. London, 1839. pp. 112.

THE object of the work before us is fully stated in the following extract: "I assert then in plain and distinct terms, that in a properly constructed building, with a sufficient number of suitable attendants, restraint is never necessary, never justifiable, and always injurious, in all cases of lunacy whatever." This is a bold assertion. But it is not so startling to those who have been conversant with the management of the insane, on a large scale, in public institutions, as it is to the uninitiated. We have long been convinced that the degree and frequency of personal restraint imposed on the inmates of lunatic asylums, indicate alike the wisdom and benevolence of their conductors. In forming an opinion of the merits of any institution, we would be more influenced by a personal examination of the premises, and by the number of patients found agreeably occupied, or under restraint, than by ordinary printed reports. It is as gratifying to the physician who feels a just pride in the advancement of a science to which he has devoted his life, as it is to the philanthropist, to reflect on the change, we may say, the revolution which has taken place in the treatment of insanity since the commencement of Pinel's labours in 1792. Prior to that period, perhaps a third, or even a larger proportion of lunatics, were chained or manacled, and otherwise treated like criminals. Now, in well regulated asylums, not more than two or three in a hundred are under personal restraint.

Mr. Hill gives a series of tables illustrative of the gradual abolition of restraint in the Lincoln Asylum. In the year 1830, the total number of patients in that establishment was 92; the total number restrained, 54; the total number of instances of restraint, 2364; and the total number of hours passed under restraint, 27,113¾. In the year 1837, the total number of patients in the asylum was 130; the total number under restraint, 2; the total number of instances of restraint, 3; and the total number of hours passed under restraint, 28. Coercion was finally discontinued in 1837, and the year 1838 was passed without a single instance of restraint. This, it must be admitted, is carrying out the idea of liberty too far, even for the longitude of America, for it is difficult to imagine the management of more than a 100 lunatics for a whole year, without the necessity of restraint, merely for the purpose of carrying into effect medical treatment. But Mr. Hill is like many others who have favourite opinions to establish. He disregards not only things of minor, but of equal or greater importance. Thus he says: "In the treatment of the insane, medicine is of little avail, except, of course, when they are suffering also from other diseases to which lunatics as well as sane persons are liable." This assertion is so opposed to all reasoning, and to general observation, that we are astonished it could have been made by a medical man connected with a public institution. The remark is just, as regards chronic and incurable insanity; but recent madness in all its forms is so connected with, and dependent on, the various pathological conditions to which the human body is liable, that we cannot conceive it any more possible to treat it without resort to medication, than to subject patients with diseases of the lungs or eyes to an exclusive course of moral management.

But the pervading subject of the work is restraint. To this we will return and give its substitutes in the author's own words. "*Classification, watchfulness, vigilant and unceasing attendance by night and by day, kindness, occupation, and attention to health, cleanliness, and comfort, and the total absence of every description of other occupation of the attendants.*"

But to carry this plan fully into effect, it is necessary to have a well arranged building, with various court yards, gardens, and pleasure grounds.

"A proper classification of the patients, more *especially at night.*"

"An adequate number of vigilant and good tempered attendants."

"A variety of occupations suited to the habits and tastes of the patients."

"And a resident medical officer of high moral character, who shall be exclusively devoted to carrying into effect the system of medical and moral treatment, without being burthened with the economical details of the establishment, which can be as well attended to by another officer."

One of the great advantages of this system, Mr. Hill asserts, is the prevention of suicide. He gives a table showing the proportion of suicides to the degree of coercion, during a period of 10½ years, with 334 patients under treatment, when coercion was at the maximum, the proportion of suicides was 1 in 167. During another period of 4¾ years, with 242 patients under treatment, when at the medium, it was 1 in 48½, and during another period, of 3½ years, with 246 patients under treatment, when coercion was in the minimum degree, there was not a single instance of self-destruction.

His plan for the prevention of this most melancholy termination of insanity, is that which has long been practised in the large French hospitals. He associates by night all the suicidal cases in an open dormitory, under the care of a confidential attendant, and says, "nothing else can prevent suicide under any system whatever."

Without claim to originality, Mr. Hill has fully carried into effect what the illustrious Pinel began half a century ago in France. Notwithstanding his bias in favour of the entire abolition of restraint, which must sometimes be impracticable, his zeal and firmness deserve the thanks of the philanthropist, and his example and success the imitation of all engaged in the treatment of insanity.

J. M.

A Guide for Mothers and Nurses, in the Management of Young Children, with Reference to Hereditary or Family Diseases, and Advice to the Pregnant and Lying-in Female. Compiled, in part, from the best English and American Writers. By CALEB TICKNOR, M.D. &c. New-York, 1839. 12mo. pp. 242.

WE have perused, with much attention, this last production of Dr. Ticknor, and find in it a fair amount of readable matter, interspersed with some good advice to mothers, and a good share of what may be denominated small talk.

This is the third work which the author has addressed to the non-professional reader. It was in some degree needed, and, like its predecessors, it will, no doubt, be useful enough in its way. The profession, however, are generally disposed to look with mistrust on works like the present. To the inexperienced mother, although conveying many useful and important precepts, it cannot be considered an all-sufficient guide; and to those who have had experience in the management of children, and who, in time of need, can obtain the advice of their family physician, the medical expositor will be of very little service.

Our friend, Dr. Ticknor, is a judicious physician, and a man of sense; he will therefore pardon the freedom we take, in advising him, if he have any intention of again appearing as a medical author, to write in future for the profession. He will, in this way, be more likely to establish a permanent reputation, and in the end, do himself and the public more good, than by retailing small doses of medical knowledge to those who can scarcely be expected to appreciate or understand it.

J. W.

Observations on the Typhoid Fever of New-England. By ENOCH HALE, M.D.

THIS able paper, by one of the physicians of the Mass. General Hospital, is principally devoted to establishing the fact, that the common continued fever of New-England, is identical with the typhoid fever of Paris, as described by Louis. Peyer's glands were found affected in every case that was carefully examined, and the other lesions considered as more or less characteristic of this disease, were equally noticed. To us, the most interesting portion of Dr. Hale's labours is his examination of the pathological characters of the fevers of Great Britain. His conclusion is, that the fever described by Bright, Tweedie, Southwood Smith, &c., was, essentially, the typhoid fever described by Louis. But that within the last eight or nine years, a *new form* of fever has, also, prevailed in Great Britain, in which the affection of Peyer's glands is not a characteristic lesion, and which may differ also from the true typhoid fever in many other particulars. This agrees perfectly with the observations made in this city, during late years, at the New-York Hospital, and especially at the Bellevue Hospital, during the summer of 1837, when there were at times 200 fever cases in the wards, mostly emigrants just arrived from Great Britain. In conclusion, we are glad to observe, that Dr. Hale does not regard the condition of Peyer's glands in typhoid fever as *the disease*; an absurdity that has gained some credit in Europe, and we are afraid has affected some of our own observers.

J. A. S.

Animal Mechanism and Physiology; being a plain and familiar Exposition of the Structure and Functions of the Human System. Designed for the use of Schools and Families. By JOHN H. GRISCOM, M.D. Professor of Chemistry in the New-York College of Pharmacy, &c. (Illustrated by numerous wood cuts.) New-York, 1839. 18mo. pp. 357.

THIS little volume claims no special notice at our hands, being designed, as indicated by the title page, for the instruction of youth, and of such children of larger growth as may wish to know something of the structure and functions of their own body. So far as it goes, it is a plain and well digested compend; but as there are certain organs, the functions of which, it would be inexpedient to make children, whether young or old, acquainted with; our author, with becoming modesty, has left these organs and their functions altogether unnoticed.

J. W.

I. *A Manual for Students preparing for Examination at Apothecary's Hall, or other Examinations.* By JOHN STEGGALL, M.D. Ninth Edition. London, 1838. 12mo. pp. 560.

II. *A Manual, for the College of Surgeons in London, Dublin, and Edinburgh, intended for the use of Candidates for Examination and Practitioners.* By JOHN STEGGALL, M.D., and M. W. HILLES. London, 1839. 12mo. pp. 772.

THE elementary works of Dr. Steggall, are highly spoken of by the medical press of London, and from a glance at the two works now before us, we have no hesitation in recommending them to the notice of our students and practitioners. In this country, however, neither of these volumes can be considered complete in itself; with us, the candidate for a license, or for a degree in medicine, should be prepared for the practice of his profession in all its branches. Even by taking these two manuals together, they are not sufficiently full on the subject of midwifery, and the practice of medicine proper; yet, so far as they go, they are excellent and well digested compends.

The manual for Apothecary's Hall, has gone through nine editions, a sufficient evidence of its value. It includes the regulations for examination at Apothecary's Hall. An epitome of pharmaceutical combinations and decompositions of chemistry, including organic and animal chemistry and toxicology, and of materia medica; with a very brief abstract of anatomy, physiology, the practice of medicine, and midwifery.

The manual for the College of Surgeons, is a more recent work, and much more elaborate than the preceding. It is divided into two parts; the first, occupying 446 pages, is devoted to anatomy, descriptive and surgical; the second portion of the volume is mostly taken up with surgery. The part devoted to surgical or regional anatomy, and to which we have more particularly directed our attention, presents a clear and sufficiently minute description of all the important parts of the body that may be involved in surgical operations, divested at the same time of the numerous repetitions and needless details that burthen and obscure some of the more important works on this subject.

J. W.

A New Dictionary of Medical Science. By ROBLEY DUNGLISSON, M.D. &c. Second Edition, with numerous modifications and additions. Philadelphia: Lea and Blanchard, 1839. 8vo. pp. 821.

THIS work of Dr. Dunglisson, like the rest of his productions, gives evidence of much industry and learning. It is a book intended particularly for students.

SCIENTIFIC INTELLIGENCE.

Proceedings of the New-York Medical and Surgical Society. Regular Meeting, June 22.

Stricture of the Œsophagus. — *Dr. Green* read the history of the following case. — On the 18th of March last, I was called to see Mrs. A., a lady of this city, aged 62, who had been for many months labouring under a stricture of the œsophagus. She had been, for some time previous, under the care of my friend, Dr. Archelaus G. Smith. The disease had existed nearly two years. At first she complained of a "burning sensation" in the throat, accompanied, at times, with some difficulty in swallowing. For a long time, however, this difficulty was slight; but for two or three months antecedent to the period of my first visit, the patient had only been able to swallow liquids, and those even in the smallest quantities. There was also existing, at this time, a small tumour, situated below the cornu of the os hyoides, on the left side, occupying the space between this bone and the thyroid cartilage. This tumour had existed for many weeks, but of late had been observed by the patient to have increased in size, and along with this enlargement there had been a correspondent increase in the difficulty of swallowing. At times, whole days would pass without the patient being able to swallow a particle of food, either in a solid or liquid state. The consequence was considerable emaciation of the body, but, with the exception of great debility, the general health did not appear to be much impaired.

This was her condition at the time I first saw her. Dr. Smith had succeeded, on several occasions, in passing a small bougie down the œsophagus, and in each instance this operation was followed with an ability to swallow a small amount of liquid food. At this time I passed, with some difficulty, a bougie, about four lines in diameter, and immediately followed it with one two sizes larger. The patient, who had been unable to swallow for nearly twenty-four hours previous, soon after this swallowed some food, and was able to take nourishment, in small quantities, for the two succeeding days. At the end of this period, the largest bougie was again introduced, and this operation was repeated every second or third day during the two following weeks. By this time, not only had the inability to swallow increased, but it became exceedingly difficult to introduce the smallest of the bougies. The tumour which had been observed on the side of the œsophagus had, during this period, considerably enlarged, and had extended down to the cricoid cartilage. Suspecting that the pressure of this tumour upon the top of the œsophagus was operating as an additional hinderance to the passage of food and the bougie, I made an effort to raise it from its bed, by inserting my fingers under its base, and drawing it upwards and backwards towards the mastoid process. I succeeded, and whilst it was held in this position, the patient could swallow better than she had been able to do for several preceding days. Under these circumstances, I proposed to Dr. Smith, that we should remove the tumour. He acceded, and the patient herself desiring the operation, the tumour was carefully dissected out on the 22d of April. It proved to be what we had anticipated, a schirrous enlargement of one of the lymphatics. A reunion by the first intention followed this operation, and the patient was again able to take nourishment, in small quantities. A short time after this operation, another tumour made its appearance on the side of the œsophagus and trachea, about two inches below the cricoid cartilage. This tumour increased in size more rapidly than the first, and it was soon followed by an enlargement of several other of the lymphatics along the side of the neck. About this period, the patient lost all power of swallowing, and was in danger of dying from actual starvation.

On the 4th of June, we succeeded in passing through the stricture the smallest tube of Hutchinson's stomach pump, and immediately pumped into the stomach some liquid nourishment. From this time, until her death, we had no difficulty in administering, in a liquid form, by means of this invaluable instrument, all the nourishment that this suffering lady required. But, notwithstanding this, she gradually sunk under the influence of the disease. On the 7th of June, she was attacked with severe rigours, which were repeated on the 8th and 9th, and were attended with a diarrhœa, under which she sunk rapidly, and died on the 11th of the present month. A day or two previous to her death, the large tumour had considerably diminished in size, and she was able to swallow, with little difficulty, as long as she lived.

Autopsy. — Assisted by Drs. Smith and Cadwell, I examined the body fourteen hours after death. On making an incision along the side of the larynx and trachea, we found that the parts which had surrounded the removed gland had healed kindly, and were in a healthy condition. The whole chain of glands along the side of the neck were enlarged, and in a schirrous condition. On cutting into the large tumour, situated over the union of the clavicle and sternum, it was found to be in an ulcerated condition, containing a quantity of bloody serum. A part of its contents had evidently escaped into the surrounding parts, which had caused the decrease in the tumour's size. Its walls were bounded on one side by the trachea and œsophagus. The muscular coat of the latter, and also that of the jugular vein, were already destroyed by the ulcer. Had the patient lived, it must have made its way into the œsophagus in a very short time. A stricture, half an inch in length, was found in the upper part of the œsophagus, and on laying open this tube, its inner or mucous coat was much thickened, for several inches, below the orifice. The stricture itself was found to have arisen from a diseased state of the *muciperous glands*, situated at the upper part of the œsophageal tube. These glands were in a schirrous condition, and had so enlarged as nearly to obliterate the passage. The disease had, undoubtedly, originated in these glands; whilst the lymphatics, external to these, had become secondarily affected. Both orifices of the stomach, and the stomach itself, were in a healthy condition. The intestines were examined. In some portions of the smaller intestines, their coats were found to be preternaturally thin, and here and there, patches of inflammation of their mucous coats were found. The liver, the mesenteric glands, the uterus, and its appendages, were all in a healthy condition.

Dr. Cumming related a case of stricture of the œsophagus, in which tinct. iodine was given, and with much benefit; a bougie had been previously used, but without advantage. An adventitious membrane was brought up in scales soon after commencing the iodine. For two or three weeks the medicine was laid aside, but it was found necessary to resume it.

Dr. Blakeman read a paper on "uterine irritation," in some comments on which, Dr. Cumming expressed the opinion, that irritable states of the uterus may be often traced to a constipated condition of the intestines, and that remedies addressed to the latter will, most generally, be found more advantageous than when addressed directly to the former.

Regular Meeting, July 6. Present 18 Members. — *Dr. Green* mentioned a case in obstetrics in which he had given ergot with speedy and happy results. The cord had been prolapsed about 12 hours and was without pulsation: — the organs of the mother and the head of the child were in due proportion, but the pains had ceased. The employment of instruments had been proposed, but the ergot was sufficient to expel the child. The opinion of the society being asked on this point, Dr. Beales observed that, as a general rule in such cases, he would prefer the operation of Embryotomy to ergot. Dr. Green mentioned that his usual practice was to give ergot in doses of gr. v. and in doubtful cases to combine about gr. ss. of opium with it, which he stated controlled the action of that medicine.

Dr. Joslin read some cases of fever, tending to confirm the opinion that crises, either partial or complete, occur on the critical days, viz: 1st, 3d, 5th, 7th, &c. after the attack, and with great regularity.

Dr. Dixon mentioned a case of laceration of the perinæum and vagina by a trowel, in which he had used Dr. Bushe's needles for the sutures with success.

He also related an instance of injury to the shoulder-joint, in which he diagnosed a longitudinal fracture of the humerus near its head, the upper fragment retaining its place, and the head of the lower portion making for itself an articulating surface in the axilla, against the ribs. Motion was nearly perfect in most directions.

Infantile Pneumonia, ending in Suppuration. — *Dr. Swett* related a case of pneumonia in an infant, which had occurred to Dr. Buel. The child, 10 months old, of a healthy constitution, was attacked on the 9th of June, (having had the measles six weeks before, but perfectly recovered) with vomiting, drowsiness, fever, &c. Dr. B. saw it on the 12th. At that time it lay with its eyes closed, its countenance pallid; pulse 160; skin cool and moist; tongue covered with a dirty white coat; very little cough; the nature or severity of the attack was not suspected by the parents. The lower and posterior portion of the right lung sounded decidedly flat; there was increased resonance of voice; and occasionally a crepitating rattle. Six leeches were applied to the right side, and castor oil ordered. The leeches bled profusely, but the child was not relieved. Spirit of Mindererus ℥ii.; syrup ipecac ʒi. ss. mix a tea spoonful every two hours, with calomel, one grain every 2 hours; still no improvement. On the 14th, 4 more leeches were applied to the right side, and the syrup of ipecac, &c. in nauseating doses continued.

On the 18th a small blister was applied to the right side; the calomel and nauseating doses of ipecac were continued, but without improvement.

On the 19th more arterial excitement; 4 leeches to chest; a considerable amelioration of the symptoms followed their application; countenance brighter; less stupor. This apparent improvement continued until the 23d, when convulsions ensued, and the child died at 11 P.M.

On *post-mortem* examination, 12 hours after death, some trifling recent adhesions were found in the right pleural cavity, but no serum. The upper and middle lobes of the right lung presented, externally, a pale straw colour slightly tinged with pink; when pressed between the fingers they did not crepitate at all, but felt uniformly and remarkably firm; when cut, the surface was dry and granulated, some lobules being more distinct than others. When pressed between the fingers, no fluid exuded, but only a little mucus from the cut bronchi. On pushing the end of the finger into the substance of the lung it penetrated with considerable ease though with less facility than in the hepatization of adults, and especially in such cases where suppuration is commencing; the cavity thus formed, presented distinct granulations, and became filled with a thin unaërated purulent fluid. The lower lobe of the same lung was of a pale violet colour, still crepitating on pressure, and discharging a good deal of redish frothy serum; tearing more easily than natural, and presenting, at its very base, a few lobules in the state of hepatization. In the upper lobe, the principal seat of disease, a few circumscribed spots of purulent matter were noticed which were probably contained in the dilated bronchi; also some spots, more yellow than the surrounding portions, assuming the shape of the lobules dry, consistent and granulated, probably pus in a concrete form. The left lung was slightly congested at its lower portion, but otherwise healthy. The bronchi, even those passing into the inflamed lung, were perfectly healthy, as also the larynx and trachea. The other organs were not examined. Dr. S. remarked that this appeared to him a case of suppuration of the lung, a form of disease usually regarded as of very rare occurrence in children of this age.

Case of Wound of the Abdomen, followed by Strangulated Ventral Hernia. *Dr. A. C. Post* read the following case.—On the 29th June, 1839, I was present at the New-York Hospital at the examination of the body of a woman, aged 41 years, who had been wounded with a knife in the abdomen four days before. The wound was inflicted by her husband, who was said to be intoxicated. The incision through the integuments was between 8 and 9 inches in length, extending from a point about half an inch on the right side of the median line, and about 2 inches above the vulva, to a point about three inches to the right of the umbilicus, and a little above it. The patient was seen by a surgeon soon after the injury was inflicted. The urinary bladder was found to have been opened near its fundus to the extent of 1½ to 2 inches. The edges of the wound in the bladder were brought together by means of two sutures. The peritoneal cavity was also opened to the extent of several inches and a portion of the intestines protruded through the opening. The surgeon, who was called, closed the wound by sutures passed through the integuments, and by adhesive plasters. The patient was sent to the hospital on the following morning, and came under the treatment of Dr. J. Kearny Rodgers. She appeared much prostrated, with a feeble pulse, and a somewhat anxious countenance. There was not much pain or tenderness of the abdomen at the time of her admission, nor at any subsequent period. A catheter was introduced into the bladder and allowed to remain there. Enemata were administered, but no free evacuations from the bowels were obtained. Warm anodyne fomentations were applied to the abdomen. The patient vomited frequently, and brought up considerable quantities of a yellowish fluid having the appearance and odour of the imperfectly formed feculent matter which is found in the small intestines. She gradually became more feeble, and died on the morning of the 29th, about four days after the injury.

Autopsy at 5 P.M. External wound as before described. On removing the adhesive plasters, an elongated oval tumour was seen beneath the integuments, extending about two inches on each side of the wound. The opening into the peritoneal cavity, was not so extensive as the wound of the integuments. There were three distinct incisions through the abdominal muscles and the peritoneum, the lowest being about 3 inches in length, the uppermost about 2½ inches, and the middle one about an inch and a quarter. These openings were separated from each other by 2 narrow bands consisting of portions of the aponeuroses, which had not been divided. A long portion of the small intestines protruded through these openings, and was situated immediately beneath the integuments constituting the tumour before alluded to. This portion of intestine appeared somewhat congested, and was of a deeper colour than in its normal condition, but not very much reddened. A small knuckle of intestine, about 3 inches in length, had passed through the smallest opening, and was closely embraced by one of the aponeurotic bands, which have been mentioned, so that it appeared as if it had been tightly included in a ligature. This strangulated portion was of a brownish red colour, like that of chocolate. The colour was more intense on the mucous than on the peritoneal surface. The strangulation of this portion of intestine was regarded by those who were present as the immediate cause of death. The intestine above the stricture and the stomach were distended with a yellow fluid, resembling that which had been vomited. The wound in the bladder was below the reflexion of the peritoneum, which passes over its fundus. Two fibrous tumours were found connected with the upper part of the uterus, one about three inches in diameter, the other about half an inch.

It is not improbable that the fatal result might have been prevented in this case by the division of the bridles which occasioned the strangulation of the bowel, if their existence had been detected. This protrusion of the intestines might also have been prevented by passing the sutures through the whole thickness of the abdominal parietes, instead of confining them to the integuments.

Aneurism of one of the Mitral Valves — Vegetations of Semilunar Valves of Aorta. Dr. Post also read the following case.

June 26th, 1839. At the New-York Hospital, an examination was made to-day of the body of a man who had, during the last four months, been affected with hemiplegia of the left side. The paralytic affection had been improving for some time before the patient's death. The day before his death he was suddenly seized with nausea without any apparent cause, and from that time he began to sink.

On examination after death, a large cyst of a somewhat irregular form, and about 3 inches in diameter, containing 2 ounces of sero-purulent fluid, was found towards the posterior part of the right hemisphere of the cerebrum, and near its upper surface; it was lined by a very distinct membrane. The heart was very much enlarged, being at least double its usual size. The enlargement was chiefly in the left ventricle. The semilunar valves of the aorta were covered with a thick mass of soft vegetations. One of the mitral valves presented a distinct aneurismal sac, of the size of a very small cherry, projecting into the auricle, and communicating with the ventricle by an aperture about a quarter of an inch in diameter: there was also a minute orifice at the most prominent part of the sac, opening into the auricle. The sac was occupied by a fibrinous clot.

Purpura Hemorrhagica. — Dr. C. Wright related the following case of Purpura Hemorrhagica, which was successfully treated by calomel and quinine:

On the 3d of May last, I was called to see Ed. Roach, aged 4 years, a smart active lad, generally enjoying good health. For the past week or ten days, his appetite had failed him, and he had been languid: no other change was observed in him until within a few days, when purple and red blotches began to make their appearance on various parts of the body. They supposed them to be the bites of insects at first, until the appearance of blood created alarm. I found him in the following condition: complexion yellow; general appearance that of one who has been beaten and much bruised. On his arms, face, and trunk, were several livid oblong blotches from two to four inches in circumference. Some of them were elevated nearly the fourth of an inch, and all have the appearance of ecchymoses. Petechiæ and vibices, varying in size from a minute point to that of a shilling piece, were scattered over the surface generally, but were most numerous on the neck, chest, and arms. The petechial spots were of various colours; red, purple, yellow, and brown. Similar spots occupied the mouth and fauces, from which, as well as from the nose, was constantly oozing black venous blood. There was also hemorrhage in different places around the neck and trunk, and from the inner canthus of the left eye. A slight blow on the skin produced a dark spot. The bowels were relaxed; fœces dark and interspersed with grumous blood, and very offensive. The temperature of the skin was natural; pulse quick, soft, and easily compressible. Complained of no pain, but slight headache — was able to go about the house, but moderate exercise induced great fatigue.

It appeared to me that the hemorrhage was of a passive kind, and that the natural secretions, influenced by the general relaxation, were mostly suspended. Hence I gave a small dose of rhubarb and calomel, to be followed by calomel and quinine.

During the day he took every 2d hour, a pill composed of calomel gr. ⅙, quinine grs. ss. At the end of the week the only perceptible amendment was the alvine evacuations, which had become less frequent and more natural. The medicine was continued for three weeks with improvement of the general health, and some alterations in the disease. He was now directed to go into the open air, and to have nourishing food. The blotches gradually disappeared in the course of a month after the restoration of his general health.

Dr. Beales related a case of slight injury of the cornea resulting rapidly in extensive inflammation, iritis and effusion of lymph into the anterior chamber: this occurred in one day. Mercurial treatment was instituted internally and by inunction, and in 24 hours the lymph was absorbed; then conjunctivitis supervened, which yielded readily to antiphlogistics.

Dr. Buck related a case of congenital deformity in a man over 25 years old, consisting in eversion of the bladder. A tumour existed above the pubis, which almost disappeared when the subject was recumbent. The penis was imperfect; there was a constant dribbling of water from the orifices of the ureters, and an evident excavation in the parietes of the abdomen. Drs. Beales and Wright alluded to similar cases.

Dr. Casey read a paper on the use of Iodide of Potassium, with cases illustrating its effects.

On motion of *Dr. Post*, the Society then adjourned until the first Saturday in September.

Regular Meeting, Sept. 7th. Present 18 members. *Dr. Post* exhibited a specimen of abdominal and uterine disease; and Dr. Watson a specimen of granular testis in the first degree. The Quarterly Essay, due at the adjournment of the Society in July last, was then read by the President; subject, "Syphilis in Infants."

Dr. Watson read an account of a "Dislocation of the Patella on its Axis," with remarks on the same.

Dr. Post mentioned the case of a man who had fallen from a scaffold, and who died shortly after he was brought to the hospital. On examination there was found emphysema of the right side of the body; fracture of four ribs of the same side; laceration of the right lung in several places; the gall-bladder was detached and distended with blood; blood was effused between the peritoneal and muscular coat of the stomach, and down the right side of the abdomen.

Aneurism of the Aorta. Effusion into the Pericardium. Sudden death. Dr. Swett related the case of a drunken prostitute, æt. 24 years, who after going up stairs, fell down and died in 5 minutes.

On examination, the pericardium was found to contain 6 ounces of serum, and a considerable clot of blood. There was a true aneurism of the aorta springing just below the innominata, and communicating with the vessel by a round opening an inch in diameter: the aneurism was about the size of a common Sicily orange; the line of communication from the vessel to the aneurism was to the right and downward; but the great mass of the tumour was anterior, just under the sternum. The internal coat of the artery could be traced distinctly into the cavity of the aneurism, but the middle coat appeared to stop suddenly at the orifice, forming a smooth elevated ring. At that portion of the cavity of the aneurism opposite the orifice, there was a laceration of the internal coat for an inch, and a corresponding one of from 3 to 6 lines, of the pericardium reflected over the commencement of the aorta, and there forming its external coat. There were coagula, old and recent, one quarter of an inch thick in the cavity of the aneurism, lining most of its internal surface, except for a considerable space around the laceration. The internal coat of the aorta was thickened, and contained a few atheromatous patches, especially about the orifice of the aneurism.

Dr. S. remarked that this case presented an instance of one of the causes of sudden death, and so far as his experience had gone, of the most frequent cause, although this was contrary to the opinion of some of the best pathologists. It also proved that aneurisms, springing from the commencement of the aorta, might attain a very considerable size, although this also was disputed by some, before rupture into the pericardium, its ordinary termination, took place.

Operation for Spermatocele, by Sir Astley Cooper. This surgeon, in his work on the Testis, published in 1830, makes the following remark: "The removal of a portion of the scrotum will lead to a diminution of the veins of the spermatic cord; and it is an operation, in an extreme enlargement accompanied with pain, which might be tried with perfect safety, and is very likely to succeed." Since this period the proposed operation has been performed a number of times, and with success. "The mode of performing the operation is as follows: The patient being placed in a recumbent posture, the relaxed scrotum is drawn between the fingers; the testis is to be raised to the external ring by an assistant; and then the portion of the scrotum is removed by the knife or knife-scissors; but I prefer the former. Any artery of the scrotum which bleeds should be tied; and a suture is then made, to bring the edges of the diminished scrotum together. The patient should be kept for a few hours in a recumbent posture, to prevent any tendency to bleeding; and then a suspensory bag is to be applied, to press the testis upwards, and to glue the scrotum to the surface. The only difficulty, in the operation of removing the scrotum by excision, is in ascertaining the proper quantity to be removed; but it adds but little to the pain if a second portion be taken away, if the first does not make sufficient pressure on the spermatic cord. It is of no use to remove a small portion of the scrotum, for from doing this I have failed. When the wound has healed, the varicocele has lessened, but not always entirely removed; but the pain and distressing sensations cease, if sufficient of the scrotum be removed. In making the suture in the scrotum, its lower part is to be brought up towards the abdominal ring, to raise and support the testis, as does the suspensory sling when it is worn. I wish it to be recollected, that I only recommend the removal of a portion of the scrotum in those cases of spermatocele in which the patient suffers great local pain; in cases in which he is most urgent to have the swelling and deformity of the part removed; and more especially, in those instances in which the function of the digestion suffers, and there is a great degree of nervousness and of mental depression. In slighter cases, a suspensory bandage must be still recommended."

Guy's Hospital Reports.

Extirpation of the Womb by Ligature. — Ann Jones, æt. 27, a female of strong habit of body, was on the 17th of March, 1838, delivered by a midwife, who in extracting the placenta, inverted the womb. The reporter and another surgeon were in attendance on the second day. At this time there was a large globular tumour, of about the size of a child's head lying in the vagina, which was so firm and hard that it did not yield in the least to pressure; besides every attempt at reduction was attended with such severe pain that they were obliged to desist. Several months passed on, during which her health suffered severely from hemorrhages, which at first were periodical, being more severe at monthly intervals, and afterwards she was scarcely free from them. Various astringent injections and other means were tried, but without much benefit. On the 10th of Nov. the reporter again saw her, and found her very much reduced: her face pale; her lips bloodless; her ankles slightly swollen, and syncope occurring whenever she assumed the erect or semi-erect posture. As there was no chance of saving her life except by extirpating the womb, an operation was advised, to which she consented. A ligature, by means of a double canula, was applied around the neck of the uterus, which was, at this time, of the normal size. Immediately on tightening the ligature, she did not complain of pain; but in about ten minutes after, the pain became so excessive that we were obliged to slacken it, nor could she bear any but the slightest pressure for a fortnight afterwards. The ligature was then gradually tightened for about three weeks, when it separated. The patient gradually regained her strength, and was restored to perfect health.

Lancet.

Treatment of Lateral Deviation of the Spine by division of the Muscles of the Back. — M. Jules Guerin has lately stated to the Academy of Sciences that he had operated twelve times successfully on patients affected with lateral deviation of the spine, by dividing the muscles of the back and spinal column: he has thus far divided the trapezius, rhomboideus, levator scapulæ, sacro-lumbalis, longissimus, dorsi and inter-transverse muscles.

"I have demonstrated the truth of the two following propositions:

1st. The majority of lateral deviations of the spine depend on active muscular retraction, and their anatomical varieties are but the expression of this retraction occurring, in various degrees, in the muscles of the spine and back."

2d. "The active treatment of this order of deformities should consist in dividing, under the skin, the several retracted muscles."

"The operations which confirm my theory were performed on individuals of both sexes, and of different ages; the youngest being 13, the oldest 22 years of age. The deviations had all arrived at the second or third degree with distortion of the spine, and proportionate gibbosity. In some cases a single section of the retracted muscles effected a cure; in others I was compelled to operate two or three times. In all cases I obtained immediately after the operation a well-marked degree of straightening of the spinal column; and in one case, that of a young man, 21 years of age, who had been treated mechanically for the last 18 months, the deviation *immediatcly* disappeared after the division of the longissimus dorsi, and the corresponding inter-transverse muscles. In all the other cases, I was enabled to complete the cure by mechanical means. In the 12 cases, no accident of any kind occurred."

Artificial Anus. — At a late meeting of the Academy of Medicine, Paris, the following case was communicated by M. Amussat:

A lady, 48 years old, had long suffered from constipation, severe pain on going to stool, and hemorrhage from the rectum; the bowels were open only once every seven or eight days. In the commencement of May last, she was treated by M. Amussat, for a slight affection of the uterus, and was about leaving for the country, when she was seized with obstinate constipation. Every remedy was now employed, but without effect. On examination of the rectum, no obstruction, no trace of fœcal matter could be found. M. M. Breschet and Recamier were called in consultation, and it was at length determined to operate, the patient being almost reduced to the last extremity. Callisen's mode of establishing an artificial anus as modified by M. Amussat, was performed on the 2d of June, in the following manner: The patient having been placed upon her abdomen, and the trunk elevated on pillows, a transverse incision was made two inches above the cisita ilii, and over the prominence which was evidently produced by the left lumbar colon. This incision cxtended from the common body of the sacro-lumbalis and longissimus dorsi muscles to the middle of the cisita ilii. The superficial fascia, the dorsal and external oblique muscles were next divided in the same direction, layer by layer; the internal oblique and transverse were then divided, and by crucial incisions. A small arterial branch was twisted, and a layer of fascia divided by a crucial incision. This last exposed the fatty cellular tissue which lies immediately in contact with the intestines: it was removed by means of curved scissors, and two ligatures were passed through the walls of the intestines in order to keep it *in situ*, and to prevent its retraction. The colon was recognised, to a certain extent, without its peritoneal coat, and a trochar introduced into its most prominent part; on withdrawing it, a quantity of gas and liquid fœces escaped. The patient was immediately much relieved. A bistoury was now passed along the canula, and the opening of the intestine freely enlarged in different directions. An abundance of gas and fœces escaped; and injections being thrown into the superior and inferior portions of the colon, three basins-full of liquid fœces came away. The orifice of the intestine was attached to the anterior angle of the wound by four sutures. The success of the operation was complete. Sixteen days afterward, the patient was in excellent health; she has resumed her usual occupation; the fœces are discharged two or three times in the twenty-four hours.

Treatment of Vesico-vaginal Fistula. —[Dr. Hayward of Boston, has published in the American Journal of Medical Sciences, for August, a successful operation for Vesico-vaginal Fistula, of fifteen years standing. The following extract presents all the important particulars of the case:]

Upon examination, I found the fistula situated from an inch and a quarter to an inch and a third behind the urethra, a little on the left side. It was not large, barely sufficient to admit the end of my forefinger, and surrounded by a hardened edge, nearly of the consistence of cartilage. There was some degree of morbid sensibility in the lining membrane of the vagina, so that an examination was quite painful.

I told her that an operation for the difficulty had been several times successful; that it had more frequently failed, and that in a few instances it had been followed by very serious consequences. At the same time, I regarded her case on the whole as a favourable one, and if, after this explanation, she wished for an operation, I would cheerfully undertake it. She at once consented, and it was fixed for the next day but one, May 10th, 1839, when it was performed in the following manner, in the presence of my friends Drs. Channing, C. G. Putnam, and J. B. S. Jackson.

The patient was placed on the edge of a table, in the same position as in the operation for lithotomy. The parts being well dilated, I introduced a large bougie into the urethra and carried it back as far as the fistula. In this way I was able to bring the bladder downwards and forwards, so that the opening was brought fairly into view. The bougie being then taken by an assistant, I made a rapid incision with a scalpel around the fistula about a line from its edges, and then removed the whole circumference of the orifice. As soon as the bleeding, which was slight, had ceased, I dissected up the membrane of the vagina from the bladder all around the opening, to the extent of about three lines. This was done partly with the view of increasing the chance of union, by presenting a larger surface, and partly to prevent the necessity of carrying the needles through the bladder. I then introduced a needle, about a third of an inch from the edge of the wound, through the membrane of the vagina and the cellular membrane beneath, and brought it out at the opposite side at about an equal distance. Before the needle was drawn through, a second and a third were introduced in the same way, and these being found sufficient to close the orifice, they were carried through, and the threads tightly tied. Each thread was left about three inches in length. I should have remarked, that I found no difficulty in introducing the needles by the hand, the fistulous opening having been brought so low down and so fairly in view.

A short silver catheter, constructed for the purpose, was then introduced into the bladder, and the patient was conveyed to the bed, and laid on her right side, to prevent any urine from coming in contact with the wound. I found her in the evening, eight hours after the operation, quite comfortable. She had had some smarting for two or three hours; but this was soon gone; she complained a little of the catheter; all the water flowed through it and was received upon cloths. She was directed to live on thin arrow root, milk and water, and a solution of gum arabic.

In the morning I removed the catheter, lest it might become obstructed, and after cleansing replaced it. No water had escaped through the wound. The patient had slept some in the night; her pain had been slight, and all her sufferings she referred to the instrument. Her pulse was good, and she had no febrile symptoms. She was directed to keep in the same position, to live on the same diet, and take a solution of salts early the next morning. She went on perfectly well for five days, the catheter being removed daily. At this time I examined her by means of a speculum. I found that the stitches were quite firm and that the wound had apparently healed in its whole extent. There was no oozing of water through it, though she was then lying on her back, and there was urine in the bladder, as it flowed through the catheter as soon as I introduced it. I then cut away the stitches, which I found by no means easy, as I was afraid to bring down the bladder, as was done in the operation, lest the wound might be torn open. The stitches, however, were at length safely removed, and in doing this, I was much indebted to the assistance of my friend Dr. Putnam.

A smaller catheter was now introduced, and the patient put to bed in the same position as before. She continued very comfortable for two days, much more so than she had been at any time before, which she attributed to the size of the instrument. I then removed the catheter altogether, and directed her to introduce it every three hours, so as to prevent any accumulation of urine. This she did till the second night, when she slept quietly for seven hours, and on waking felt no inconvenience. Twice also, during this period, she passed water by the efforts of the bladder alone, so that the organ had already regained, in part, its expulsive power, as well as that of retention. She now set up, introduced the instrument less frequently, and was allowed a more generous diet.

At the end of seventeen days from the operation, I examined her again; the wound was entirely healed and apparently firm, and the soreness nearly gone. I advised her to introduce the catheter two or three times a day for some weeks; and on the following day she returned home by water, a distance of nearly two hundred miles."

[The plan of raising the lining membrane of the vagina, from the walls of the bladder, upon which Dr. Hayward appears to have proceeded successfully, in this case, is worthy of the consideration of those who may hereafter attempt the radical cure of this troublesome affection. The various operations hitherto suggested for this purpose, have been attended with very inadequate success. We have several times seen them fail in the hand of the most skilful operators, both in this city and elsewhere. So trifling, indeed, has been the success of these operations, that some surgeons are, at present, rather disposed to leave the patients to themselves, rather than resort either to the cautery or the suture. The writer of this note has met with two cases of vesico-vaginal fistula, which, after existing two or three years, at length contracted so as to enable the patients to retain their urine for several hours together. And on mentioning these facts to Dr. A. H. Stevens, this experienced surgeon corroborated them by a similar instance that had occurred under his own observation.]

Wounds of the Head. — M. Laugier, some time since, communicated to the Academy of Sciences, Paris, an account of a new sign of effusion of blood within the cavity of the cranium, accompanied by a fracture of the petrous portion of the temporal bone, penetrating into the cavity of the tympanum. This sign consists in a discharge, from the ear, of a more or less considerable quantity of a watery fluid, at first slightly tinged with blood, but soon becoming limpid, which is nothing else than the serous portion of the blood that has been effused into the cavity of the cranium, between the dura mater and the bone.

Lesion of the Trunk of the Ganglionic System of Nerves in the Neck, and its effect upon the Eye. — Dr. John Reid has recently shown, by a series of experiments, (Edinburgh Med. and Surg. Journal for July, 1839,) that, by injuring the sympathetic nerve in the neck, the pupil of the eye, on the corresponding side, becomes contracted, and the eyelids partially closed, independent of the conjunctival inflammation which is known to follow injury of this nerve. "I have frequently verified," says he, "the observations of Petit and others, that when the *vagus* is injured in the neck in those animals in which the sympathetic is confined with the *vagus*, as in the dog, that the conjunctiva becomes inflamed, the pupil contracts, and the eyelids are somewhat more closely approximated to each other." At first, he was inclined to believe that the state of the pupil and eyelids depended upon the impatience of light which sometimes accompanies inflammation of the conjunctiva. But, after attending more carefully to the subject, he has ascertained "that the contraction of the pupil, the projection of the cartilaginous membrane, or third eyelid situated at the inner angle of the eye, over the cornea, and the partial approximation of the eyelids to each other, take place immediately after the injury of the sympathetic, and before the inflammation of the conjunctiva presents itself, and that they continue after it has disappeared."

Successful Operation for the Purpose of remedying a Deformity of the Leg; consequent to a badly set Fracture. By CHARLES PARRY, M.D. of Indianopolis, Indiana.

THE patient upon whom this operation was performed, was a young man near the age of 22; a member of the bar, of fine talents, and considerable attainments.

The history of the case is as follows: — At the age of fifteen, while skating on the ice, he fell and broke his right leg; the tibia about midway, the fibula two inches lower down. The physician, who was called to attend the case, was considered skilful, but of intemperate habits, and, most unfortunately for the patient, was intoxicated at this time.

In what manner he dressed the fractured limb, it is impossible to say; but in the course of three or four weeks, it was found quite firmly united: the bones forming an angle almost equal to a right angle, at the place of fracture. The patient had to walk with a crutch, the toes of the lame limb not touching the ground when he was in the erect position. When he sat on a chair, and placed both feet on the floor, the knee of the sound limb was five inches higher than the knée of the lame one.

After some deliberation, I stated that I thought he could be very materially benefited by the following operation:

To cut down to the bones; dissect the muscles from them, and saw a little block out of the angle of each bone; bring the lower end of the limb in a line with the upper; retain them in juxtaposition by splints; and treat as a compound fracture.

On the 15th of January, 1838, assisted by Drs. Mason and Ford, others present, I proceeded to the operation already described. I had prepared myself with a small saw, from the plate and description of Dr. Barton's in his hip-joint case, without which I would have found great difficulty in sawing the fibula; from its being so closely and firmly fixed against the outward flat surface of the tibia, and covered by the tibialis anticus muscle. Further, without this small saw, it would have been difficult to avoid wounding the anterior tibial artery; for, while severing the fibula, I had to introduce the end of a finger between the artery and bone, and permit the saw to strike against my finger.

In sawing the fibula, I had made my calculations for the two sections to meet at the posterior part of the bone; but after the block of bone was taken out, I found the leg would not yield to moderate force. I then took off another section from the lower end, the appearance of which indicated that, at the original fracture, a very thick spicula of bone had extended across the angle, acting as a brace; the triangular space being filled up by osseous deposition. After this was overcome, the limb was brought straight without further difficulty.

By this operation, the leg was increased three inches in length.

[Dr. P. does not inform us in what manner the limb was subsequently secured. Nothing untoward followed the operation until the thirteenth day; when the coapted bones were accidentally disturbed, and the healing process consequently prolonged for several weeks. Towards the latter part of March, however, the patient had so far recovered as to set out upon a journey through WisconsinTerritory, to examine the country.

Dr. Parry in the preceding case, which we have abridged from the

Amer. Jour. Med. Sciences, for August last, has evinced considerable ingenuity in successfully following up the precedents of J. R. Barton, Wasserfuhr,* and others, in their operations on the continuity of bones for the removal of deformities. At the time of this operation, Dr. P. was unaware of any other similar cases, excepting that of Dr. Barton, in the neck of the femur. In the same number of the Amer. Journal of Med. Sciences, is an abstract of several others, that have recently been performed in Europe.]

On Perforations of the Stomach from Poisoning and Disease. By A. S. Taylor. — Poisons are capable of inducing perforation of the stomach in two ways: 1. by corrosion; 2. by leading to ulceration, and the destruction of the parietes in a circumscribed space by that process. Some poisons have a powerfully corrosive, or destructive action, on the living fibre. Such is the case with the concentrated mineral acids and alkalies, corrosive sublimate, nitrate of silver, and a few others. The action of these poisons, in corroding the living organs, is purely chemical, and takes place immediately on contact. During life, the action of the corrosives is known by the symptoms *immediately* following the injection of the poison; and after death, if this have taken place speedily — which is commonly the case when the poison is swallowed in a large dose, or in a highly concentrated state, — by the distinct traces of their chemical action on the mouth, fauces, œsophagus, and stomach. Othor poisons appear to have a purely irritant action, giving rise to inflammation and its consequences: they do not chemically corrode or destroy the part with which they come in contact. This description applies to arsenic, and the salts of barytes, among the more common poisons; but all the corrosives, when taken in a diluted form, are capable of acting as irritants. In estimating the action of poisons on the stomach, we must then consider whether the substance taken be of a corrosive or irritant nature.

The *perforation by corrosion* is the most common variety of perforation from poisoning; and, as its name implies, it is a simple result of the chemical action of one of the corrosive poisons on the stomach. Among these, the mineral acids are commonly taken or administered; and of the mineral acids, we might point to the sulphuric, as furnishing us with the most frequent examples of this kind of lesion. Perforation, in this form of poisoning, is not unusual when it has been swallowed in a concentrated state; if taken diluted, or if, at the time, the stomach be filled with food, then the parietes may escape destruction.

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* See Malgaigne, Manuel de Médecine Operatoire.

The characters of the aperture are these: it is generally large and wide, occupying sometimes a considerable extent of the organ. The mucous membrane around, is of a dark brown or black colour, having, for a considerable space, a sooty appearance. This black matter, which results from altered blood, as well as from the carbonizing action of the acid on the mucous membrane, is often disposed in insulated or striated patches, taking the course of the rugæ. On removing this, if life has been sufficiently prolonged, marks of inflammation may be found beneath; but this is by no means constant. The edges of the aperture are rough, irregular, and often softened and pulpy. The action of the acid will be found to extend through the œsophagus into the fauces, and as a portion generally escapes from the stomach through the opening, the adjacent organs are frequently affected by its corrosive action. The perforation is produced either immediately, or very soon after the ingestion of the acid, and death is commonly a very speedy consequence. The acid may be, in general, easily detected, either in the contents of the organ, or, if these have escaped, in the liquid effused in the abdomen or pelvis. If no liquid can be discovered, a small portion of the corroded mucous membrane, digested in water, will yield traces of its presence.

Nitric acid is capable of perforating the stomach, like the sulphuric; but it is a poison not often taken, and therefore we cannot speak as to the frequency of perforation by it in the human subject. Among the cases collected by Orfila, there is only one in which perforation was observed. The aperture in the case of nitric acid presents all the marks of corrosion; and the edge is generally tinged of a yellow colour; or if bile be present in the contents of the stomach, then the mucous coat may have a greenish hue.

Comparatively speaking, corrosive sublimate is not often taken as a poison; but when introduced into the stomach, it is liable to perforate the organ by corroding its parietes to a greater or less extent. This accident is, however, rare; and is only likely to be witnessed when the poison has been taken in a very large and concentrated dose.

We have next to speak of perforation from ulceration, caused by irritant poisons. This may be regarded as an extremely rare variety. Those substances which destroy the stomach by corrosion are capable, when diluted, or taken in less concentrated doses, of giving rise to ulceration of the coats; the eschars first formed, sloughing off. Of all the irritants, — and, indeed, it may be said of all poisons, — arsenic is the most frequently taken. Notwithstanding this, cases in which it has produced ulceration, are not common; and those in which the ulceration has proceeded so far as to perforate the coats, are very rare. Death usually takes place long before the process has advanced to this degree.

Perforation from Morbid Causes. — Perforation of the stomach may be a result: 1. Of simple ulceration; sometimes of an acute, but more commonly of a chronic character; 2. of scirrhous ulceration; 3. of a solution of the parietes, which is supposed to take place after death.

Ulceration of the stomach, proceeding to perforation, is one of the most formidable and insidious diseases. It often attacks persons, more especially females, in the prime of life, and in the full vigour of health; and previous to the sudden and fatal illness, there will be no warning of the impending danger. In general, the previous symptoms are only those of dyspepsia, or ordinary derangement of the stomach: the illness is so slight as not commonly to attract the notice of those with whom the person is living.

1. On opening the abdomen, there are all the marks of severe peritonitis; effusion of serum, with coagulable lymph; agglutination of the viscera; and extravasation of the contents of the stomach.

2. An aperture in the stomach, of an oval or rounded form; its shape depending, in some degree, on the manner in which the parietes of the stomach are placed to observe it. It is commonly from half an inch to an inch in diameter; and is situated in or near the lesser curvature, between the cardia and pylorus. This almost constant situation of the ulcerated aperture is a circumstance worthy of remark. It has not, as yet, so far as I am aware, received any explanation from pathologists. The edges of the aperture are smooth, soft, and fleshy-looking. The tunics appear to be thinned off, from within outwards; so that the mucous membrane is usually removed to a greater extent than the muscular coat; and this, than the peritoneal coat. The last is thinned off to a sharp edge, so that there is no appearance of laceration or ulceration. Near the circumference of the aperture, the coats of the stomach are thickened, sometimes hard, and even cartilaginous. This thickening may be disposed in a slight ring, or extend to some distance; and it may be confined to one part of the circumference, or extend all round. I have here described what I have actually seen.

When the aperture is the result of simple ulceration, then the appearances will be modified, — there is no thickening of the coats of the stomach, and marks of ulceration are apparent. The edge of the aperture may be very slightly, or not at all, raised above the surface of the surrounding membrane.

3. The mucous membrane of the stomach is either pale or presents slight patches of inflammatory redness; sometimes only the margin of the ulcerated aperture is slightly reddened.

Perforation by Solution. — This kind of perforation is often called spontaneous; because, formerly it was thought that, with this exception, all apertures in the organ resulted from the action of corrosive substances. But the perforation by simple or schirrous ulceration might with equal reason be called spontaneous. Chaussier, and other French writers, class under the head of "spontaneous,' all that are not produced by poison. There is considerable doubt among pathologists, as to the circumstances under which, and the time at which, this kind of perforation takes place. Some regard it as the result of disease in the parietes of the stomach, analogous to softening in other organs, and consider that the aperture is formed during life; others, on the contrary, believe that it is a simple *post-mortem* change, resulting from the action of the gastric secretions on the coats of the stomach after death. The latter is the view more generally adopted by English pathologists; a circumstance which has induced me to give to this the name of "perforation by solution." There are, it appears to me, difficulties to the admission of either view exclusively; but, before noticing these, it will be perhaps better to state the characters of the aperture, and the means by which we may distinguish it from the perforation by poison.

This kind of perforation is generally met with at the greater extremity of the stomach, occupying sometimes a large portion of the fundus. It is large and irregular; the edges are thin, ragged, commonly much softened for a considerable space around, and present that fringed appearance which the stomach might be conceived to acquire by the scraping of its parietes with a blunt knife. The mucous membrane around the aperture is stated to have sometimes a black or brown colour; and the blood in the vessels, ramifying on the coats, is similarly changed. The mucous membrane of the whole stomach is pale and free from vascularity. Indeed Dr. Carswell, who adopts the view of chemical solution, asserts "that redness, whether arising from the effusion of blood, or vascularity, is incompatible with perforation from this natural chemical agent." It is clear, that if it be a *post-mortem* change only, it cannot be accompanied with vascularity, or that the vascularity, if it exist, must be incidental, and depending on some other cause. The contents of the stomach are not always effused; and when they are, there is no evidence of peritoneal inflammation, nor any morbid change whatever, to indicate that the effusion had taken place during life. The absence of all marks of peritonitis seems to indicate, in the most positive manner either that the perforation and extravasation occurred recently before, or at some period after death. The viscera opposite the perforated spot, whether the spleen, liver, or diaphragm, are commonly found softened, and in a dissolved state; having almost the impress of having been acted on by some fluid which has escaped from the stomach. Lastly, this singular change is either not indicated by symptoms during life, or they are of so light a kind, as to lead us to no suspicion of the mischief which is going on. It is said that, in some instances, general febrile disturbance, with vomiting or diarrhœa, has shown itself; but, on the other hand, the appearance has been met with in persons who have died a violent death, and again in the bodies of individuals who have clearly died from disease in a remote part of the body.

The preceding facts and observations may perhaps be considered to justify the following conclusions: —

1. That perforations of the stomach, from solution are very rare in the human subject.

2. That they may occur in healthy and diseased states of the body.

3. That the perforation takes place after death; and depends on the action of the gastric secretion, which, in the opinion of some, is facilitated by a diseased state of the parietes of the stomach. But that the secretion is the chief, if not the sole cause, seems probable, from the fact, that the liver, spleen, and diaphragm have also been found softened, the latter even perforated, where lying near the aperture in the stomach. We must then imagine, either that these accidentally contiguous parts partake of the same disease as the stomach, or that disease of that organ is not necessary for its coats to become destroyed by the secretion.

4. That the secretion cannot be the healthy gastric juice, but some altered state of that liquid. This is rendered probable by the facts: 1. If it were the ordinary secretion, perforation would be much more common in healthy persons, dying suddenly, soon after a meal. 2. It would not be met with in diseased subjects, or those labouring under disease of the stomach.

5. That the exact nature of the liquid producing the change, and the circumstances to which it owes its solvent power, are unknown.

Guy's Hospital Reports.

Disorders of the Brain connected with Diseased Kidneys, by Dr. Addison. — The object of this communication is 1st, to point out out the general character and individual forms of cerebral disorder connected with interrupted function of the kidneys, from whatever cause such interrupted function may arise. Secondly, to show that in recent as well as chronic disease of the kidney, the cerebral disorder is, not unfrequently, the most prominent and, occasionally, the only obvious symptom present. And, thirdly, to establish a means of diagnosis in such obscure, or in unsuspected cases upon the peculiar character of the cerebral affection.

According to my experience, the general character of cerebral affections connected with renal disease is marked *by a pale face, a quiet pulse, a contracted or undilated and obedient pupil, and the absence of paralysis.*

So far as I have as yet been able to observe, the individual forms of cerebral disorder connected with renal disease, are the five following:

1st. A more or less sudden attack of *quiet stupor*, which may be temporary and repeated; or permanent, ending in death.

2d. A sudden attack of a *peculiar modification of coma and stertor*,* which may be temporary or end in death.

3d. A sudden attack of *convulsions*, which may be temporary or end in death.

4th. A *combination of the two latter:* consisting of a sudden attack of coma and stertor, accompanied by constant or intermitting convulsions.

5th. A state of *dulness of intellect, sluggishness of manner*, and *drowsiness*, often preceded by *giddiness, dimness of sight, and pain in the head;* proceeding either to *coma* alone, or to *coma accompanied by convulsions*, the coma presenting the peculiar character already alluded to.

Guy's Hospital Reports.

Tubercles of the Brain. By P. Hennis Green, M.B. — CASE I. Marie Brouet, eight years of age, was admitted into the hospital on the 15th of July. For the last five months she had complained of pain in the head, and presented variouslesions of motility. Her parents both died of pulmonary consumption. The child does not now complain of pain in the head, and her intellectual faculties are perfectly clear; pulse natural; skin cool; progression difficult. When she attempts to walk, movements are extremely irregular and uncertain, but do not resemble those of chorea. There is no lesion of sensibility; no paralysis or contraction.

18th. The headache is now intense, occupies the frontal region, and is accompanied by bilious vomiting, with constipation for the last four days; the child is agitated during the night, and slept little; pulse 76.—Sinapisms to the legs.

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* The serous apoplexy of authors, in which the face is pale, the pulse small and quiet — the pupil often natural and obedient to light, and no paralysis, — the stertor is very peculiar and in a great measure characteristic — it has not the deep, rough, guttural or nasal sound of ordinary apoplexy — it presents more of a hissing character.

20th. Violent delirium during the night, which disappeared towards morning, and was succeeded by extreme agitation and restlessness; the child cries when approached; says that she feels no pain, and asks for food.

21st. Constant agitation, and cries during the night; in the morning stupor. The eyes appear prominent, and half covered by their lids; pupils dilated; tendency to retraction of the head.

22nd. The patient is much less stupid than she was yesterday. She answers when spoken to, but does not seem to be aware that she is in an hospital; does not complain of headache, though she frequently exclaimed during the night, "Oh, my head! my head!" no convulsive movement of the limbs; rigidity of the neck persists; no change of sensibility on either side of the body; eyes extremely sensitive to the action of light; pulse 108; obstinate constipation; tongue natural. — Four leeches behind each ear; sinapisms to the legs; injections; simple drinks.

30th. The child lies in a state of coma; extremities relaxed; head retracted; pupils dilated, with oscillation of the iris; sight and hearing are lost; excretions passed involuntarily; pulse 130; respiration 40.

In this state the patient lay until 8 o'clock, P. M., when general convulsions set in, the breathing became stertorous, and she died at 10 o'clock.

Body examined 33 *hours after death. External appearance.* — Emaciation; no cadaveric rigidity; greenish tint of the abdomen.

Nervous System. — The membranes which cover the superior portion of the brain present a natural appearance; at the base the arachnoid, near the circle of Willis and pons varolii, is separated from the pia mater by a gelatinous fluid. In the lateral ventricles there are about three ounces of turbid serum, in which are suspended some albuminous flocculi; the lining membrane of the ventricles is rough, irregular, and covered here and there with false membranes.

The fornix and septum lucidum are diffluent. The nervous substance is not much injected.

In the centre of the cerebellum is a tuberculous mass as large as a chestnut. The surrounding cerebral matter is injected, but not softened.

Respiratory System. — The lungs are studded with miliary tubercles; the bronchial glands are also tuberculous, and some of them softened in the centre.

Abdominal Viscera. — The organs contained in the abdominal cavity are perfectly healthy.

Case II. — Eugenie Vanier, nine years of age, admitted 21st May. The father of this child is more than 60 years of age. The mother died of pulmonary consumption at the age of 32; complexion scrofulous; weak constitution; thorax malformed; had hooping-cough at the age of eight years, which lasted three months, and during which she expectorated bloody sputa; since then irregular accesses of fever; cough; intense headache, returning at irregular intervals; alternate constipation and diarrhœa; intelligence has remained undisturbed; no convulsive movements or paralysis were observed; loss of hearing for the last three months.

Present State. — Face pale and thin; extremities feeble; abdomen tumefied, and when pressed on can feel irregular tumours in interior, about umbilicus; ganglia of neck tumefied also; cough frequent, without expectoration; dull sound; bronchial respiration and gurgling under left clavicle; but little trouble of respiration; skin moderately warm; pulse 112; respiration 28; tongue moist and covered with a white fur; but little thirst; appetite capricious; constipation; abdomen painful; headache; deafness well marked; sees well; intellect clear; — purgative powder; gum water; milk.

During the succeeding days but little change presented itself; the only remarkable symptoms being the deafness, headache, and a remarkable degree of stupor; no diarrhœa; no stool, except after each injection; she continued in the same state, and died on 4th June, without any convulsion or struggle.

Examination 36 hours after Death. Nervous System. — The cerebral membranes are free from alteration; no infiltration of the pia mater is apparent; at the posterior and superior part of the left hemisphere is a tubercle about the size of a large pea, situate in the gray substance of the convolutions; the surrounding tissues are perfectly natural; a tubercle of a similar size is situate at the base of the same hemisphere, and is adherent to the tentorium cerebelli; the rest of the brain is healthy.

Respiratory System. — The larynx and trachea are healthy; the bronchial membrane is slightly injected; the bronchial glands are tuberculous; the left lung adheres throughout to the chest and diaphragm, and is studded with tubercles, some of which are softened; there are tuberculous cavities in the superior lobe of this lung, and the surrounding cellular tissue is the seat of chronic inflammation. The summit of the right lung, adheres to the costal pleura; tubercles less numerous than in the left lung; no cavern; the cervical ganglia are enlarged and tuberculous; pericardium and heart healthy.

Abdominal Viscera. — The mesenteric glands are greatly enlarged and tuberculous; mucous membrane of the stomach normal; the duodenum near its termination presents several lenticular ulcerations, evidently produced by miliary tubercles, which occupy the centre; the same kind of ulcerations are found throughout the whole of the small intestines, and become more numerous in the neighbourhood of the ilio-cæcal valve; the mucous membrane in the neighbourhood of these ulcers is thinned, but furnishes slips of two to three lines in length; the large intestines also contain ulcerations, less in number, and a quantity of indurated fœces. *Liver*, of a brown-red colour, adheres superiorly to the diaphragm; contains a few miliary tubercles, which are also found in numbers in the spleen; there are a few miliary tubercles in the cortical substance of the kidneys, and the right kidney contains one as large as a nut; the glands surrounding the pancreas are tuberculous, but that organ is healthy.

Case III. Jeanne Masson, æt. 10 years, admitted June 14. Six weeks ago she began to complain of pain over the whole head, most marked in forehead, causing insomnia and fretfulness; vomiting, which continued 3 weeks; constipation;—followed by loss of power in progression, also cough;—for 15 days irregular fever; great pain, and stiffness in muscles of neck, and confinement to bed; no delirium or convulsions; epistaxis; has used leeches at the commencement; sinapisms to legs; purgatives. —*Actual Condition*. (On the 15th.) Decubitus dorsal; head inclined backward to the right; pain on motion of head; pain in forehead, and very severe in back of neck; slight strabismus to the left; intolerance of light; pupils moderately dilated, contractile; the sight good; lids half open; no deviation of mouth; tongue white and dry, protruded with difficulty; no vomiting; no stool; delirious in the night, with great agitation; now sensible, but rather dull; sensibility and motility of arms unimpaired; motility of lower extremities impaired; respiration 16, deep and irregular; fever moderate; pulse 104;—leeches; injections.

June 16th. Agitation and delirium at night continue; more drowsy; pupils dilated; face pale; pain in head, &c. as before, as also the other cerebral symptoms; abdomen retracted; tongue dry and brown; no sudamina or rose-spots; trifling cough; fever considerable; pulse 94, regular; respiration 14, irregular;—6 leeches to neck; injections, &c.

June 17th. Stupor extreme, but roused by being spoken to; cries when moved; pupils moderately dilated; no strabismus; face slightly coloured; pulse small, 110; respiration 28, 32, unequal; abdomen free from pain; no stool; rigidity of upper extremities; tongue deviates to the left, protruded with difficulty; no strabismus; motion in legs, which she complains feel stiff; impaired sensibility on both sides of the body, especially on the right side;—8 leeches to neck; calomel 8 grs.; injections.

June 18th. Delirium at night; profound coma; after a time this passed away and she answered questions correctly in a low feeble voice, and complained of pain in back of neck; left eyelid paralyzed, pupil dilated; right pupil not seen; tongue excessively brown and dry, inclining to left side; left arm somewhat stiff; sensibility unimpaired; no paralysis of either extremities; skin cool; pulse 124; respiration tranquil, 36; died on morning of 19th; intellect unimpaired until nearly the last moment.

Examination 24 *hours after death. Head.* — The cranium is well formed. The dura mater does not present anything remarkable; the arachnoid, which covers the superior surface of the brain, is quite transparent; the pia mater, in this portion, is not injected, nor does it contain granulations, or yellow matter; at the base we observe the same healthy condition of the arachnoid, but the pia mater contains some granulations in the fissure of Sylvius, on both sides; no other change to be found in the membranes. The convolutions of the hemispheres present a flattened appearance, but their colour and consistence, interiorly, are normal; the white substance, down to level of ventricles, is also normal; the ventricles contain about four or five ounces of clear serum; the posterior third of their floor is softened to a depth of two or three lines; the fornix, septum lucidum, and part of the corpus callosum are softened; the rest of the brain, though divided minutely, presents nothing abnormal; arachnoid, covering the cerebellum is transparent; pia mater is moderately infiltrated with clear serum; the arachnoid is found to adhere to the surface of the cerebellum at a level with the lower part of the left lobe for the size of a two-franc piece; underneath we discover a yellow substance, which, on examination, is found to be composed of a tubercular mass as large as a white plum; it is made up of numerous smaller tubercles of the size of a pea, collected together and intermixed with indurated nervous substance; the inner surface is mamellated and covered with portions of softened pulp.

In the right lobe of the cerebellum is a second tubercle of nearly the same size and appearance; it lies deeper in its substance, and is not seen externally; round it the nervous substance is softened for about one line deep; pons varolii and spinal marrow examined, but no traces of alteration in them.

Chest. There was a vast tubercular excavation in the centre of the right lung, at the upper part, and numerous tubercles in both lungs, and in the bronchial and mesenteric glands. The rest of the abdomen was not examined.

Case IV. Desibier, nine years of age, was admitted into the hospital on the 21st of February, 1837. The child has been vaccinated. About three weeks ago she was seized with an attack of sickness, which commenced with a sense of general fatigue, coryza, and epistaxis. During the last eight days she has experienced increased difficulty of breathing, with symptoms of fever. There was also some vomiting at this time; has never had any diarrhœa.

Present state.—The face is somewhat tumid and congested; she lies on the right side. The voice is hoarse; coughs frequently, and the sputa are streaked with pure blood. On percussing the chest the sound is equally clear on both sides; there are some mucous and sibilant rattles on both sides. Respiration diaphragmatic, 72; pulse 126, moderately developed; skin hot and moist; no pain in the chest; some sensation of pain in the larynx; no diarrhœa; headache; tongue moist, covered with a white fur; the intellectual faculties are perfectly clear. — Decoct. of Mallows; tartar emetic, one grain; almond mixture, with three grains of Kermes mineral; blisters to the legs; laxative injection. The child vomited two or three times after the emetic, but no amelioration ensued.

22nd. The nurse assures us that the child has been delirious all night. Now, at the visit, she answers rationally, and permits us to examine the chest without making any resistance. There is a slight purple tint over the face; the chest sounds well, but we have now discovered a gurgling beneath both clavicles; there is an abundant mucous rattle throughout the chest on both sides; no crepitating rattle; has had two liquid stools within the last 24 hours; pulse feeble, 150; respiration 72. — Draught with squills; four ounces of Malaga wine.

24th. She has had a severe access of delirium during the night, but is now calm in the morning; the other symptoms continue unchanged.— Almond emulsion, with five grains of Kermes mineral; emollient injection; blisters to the legs.

26th. The child has lain since yesterday in a state of constant delirium; pulse excessively quick; respiration 52; face of a purple colour; no vomiting. She continued to sink during the day, and died in the evening.

Body examined 40 *hours after death.*—The face and limbs are infiltrated.

Cranium.—On the convex surface of the right hemisphere there is a number of yellowish-brown granulations situate in the pia-mater, which envelopes the vessels running along the anfractuosities. These granulations are principally found about an inch from the longitudinal fissure, and are quite distinct from the glands of Pacchioni, which seem to be enlarged. There are some granulations, also, on the lateral surfaces of both hemispheres, and but a very few at the base of the brain. There is a considerable infiltration of serosity in the pia mater. On the right hemisphere there are 7 or 8 tubercles of a small size adherent to the pia mater, and penetrating into the cerebral substance. On incising the nervous matter by very thin layers we discover about 20 more tubercles lodged in the gray substance; these vary in size from a pin's head to a small pea. The surrounding cerebral substance is healthy in structure; the gray matter is somewhat injected, but of normal consistence. There is no effusion of serum in the lateral ventricles, the walls of which present a natural appearance.

Respiratory system.—The larynx, trachea, and bronchi are lined with a quantity of puriform mucus. Some recent adhesions of the left lung to the side of the chest; underneath the left pleura a multitude of white and gray granulations. Both lungs contain a number of tubercles, some of which, at the upper part, are completely softened; around some of them the pulmonary parenchyma is hepatized. The heart is voluminous, and contains some black coagulated clots.

The viscera of the abdomen were examined in a hasty and imperfect manner. We observed a great number of tubercles underneath the peritoneal coat of the intestines, and a few rounded ulcerations near the termination of the small intestine.

Remarks. It is a curious point in the history of medical literature that, although tubercles of the brain constitute one of the most frequent and important affections of the nervous system in children, they have been neglected by all systematic writers on diseases of children, without exception. I am acquainted with almost every work of any reputation on children's diseases, in all European languages, and cannot call to mind a single one in which even a few lines, much less a chapter, are devoted to the consideration of cerebral tubercles. This cannot arise from the comparative rarity of tubercles of the brain in children, for a long and laborious investigation of this interesting subject enables me to affirm that in point of frequency, they must be ranged next to hydrocephalus, and that for every three cases of the latter disease, there exists one of the former. On the other hand, tubercles of the brain are extremely rare in the adult subject. M. Louis examined 117 bodies of adults who had died of pulmonary consumption, without meeting with more than one example, and all who have been in the habit of making numerous *post-mortem* examinations will remember how seldom this lesion of the nervous centres in adults presents itself to the pathologist. The theses of some of the French *internes*, however, contain a mass of valuable information on tubercles of the brain; amongst the best of which may be mentioned those of MM. Mitivié, Giraud, Tornellé, Leveillé, and Dufour. My friend, M. Constant also, who, had he lived, would have formed one of the brightest ornaments of medicine in France, published some excellent observations on cerebral tubercles, in the "Gazette Medicale," but a complete monograph on the subject is yet a desideratum in medical literature.

Tubercles of the brain often exist without producing any disturbance of the cerebral functions, and are only discovered on examination of the body after death. Of this I have seen frequent examples. The foreign body may even attain a very considerable size without giving rise to irritation or inflammation of the surrounding nervous tissue, and unless situate in the neighbourhood of some of the principal nerves, or important divisions of the brain, the pressure which it must necessarily exercise, seems, as it were, to pass unheeded by the centre of the nervous system. In other cases a small tubercle will excite more or less irritation and congestion of the surrounding substance, and develope a train of symptoms which, although frequently obscure still present a certain character, or order, from which the nature of the lesion may be discovered.

In the present remarks I do not propose to enter, at any length, into the history of cerebral tubercles in children, but merely to direct attention to a few of the leading symptoms which presented themselves in the cases above described.

Headache, more or less intense, either perpetual or remittent, sometimes occupying the frontal region, at other times corresponding exactly with the seat of the tubercle, is a very frequent symptom. It existed in all the cases which I have related. In that of Masson, where the tubercle occupied the posterior part of the cerebellum, the headache was principally fixed in the back of the head and neck.

Chronic vomiting, occurring at uncertain intervals, and not apparently connected with disorder of the alimentary canal, is another symptom which constantly exists, and is of great value in the diagnosis of cerebral tubercle, when conjoined to headache and constipation of the bowels. The latter symptom is one to which too much attention cannot be paid. It may depend, of course, on a variety of causes, but long-continued and obstinate constipation in children is generally, as far as I have observed, connected with some organic lesion of the nervous centres, and, more especially, with chronic meningitis, or tubercle.

Some disorder of the motor power, manifested by irregularity of the gait, an incapability of harmonising the movements, partial paralysis, or a contracted state of one of the limbs, often exists as a symptom of cerebral tubercle. It preceded the acute symptoms, for some time, in the case of Jeanne Masson; and I have frequently noticed a similar phenomenon both in cases of tubercle and of chronic meningitis, the forerunner of hydrocephalus. The intellectual functions are seldom disturbed at an early stage of cerebral tubercle, but as the disease advances, more or less change, either in the temper of the child, the memory, or some other mental faculty, usually manifests itself; irregular accesses of fever (which is often mistaken for infantile remittent fever) occur, with delirium at night, and, in some instances, the patient is gradually reduced to a state of complete idiocy.

Tubercles of the brain in children commonly destroy life, either by inducing acute hydrocephalus, or by exciting inflammatory softening of the surrounding nervous tissue. Indeed the relation between acute hydrocephalus and tubercle is much more close than has been generally admitted. On some other occasion I shall endeavour to determine the precise relation, by the statistical records which I possess, but my impression is, that tubercles of the nervous centres exist in from one-fourth to one-sixth of the cases of hydrocephalus which occur in children above 12 months of age.

The influence of age on the production of cerebral tubercle is very remarkable. On looking over a list of 42 cases which I have observed within a period of 5 years, I find that there occurred,

At the age of 1 year	1	At the age of 9 years	0
“ 2	11	“ 10	2
“ 3	5	“ 11	0
“ 4	5	“ 12	1
“ 5	8	“ 13	0
“ 6	2	“ 14	0
“ 7	5	“ 15	1
“ 8	1		—
		Total,	42

Of 38 other cases which have been observed by different *internes* at the Children's Hospital, Paris, there were,

At the age of 1 year	0	At the age of 9 years	3
“ 2	0	“ 10	4
“ 3	8	“ 11	0
“ 4	5	“ 12	0
“ 5	5	“ 13	1
“ 6	6	“ 14	0
“ 7	3	“ 15	0
“ 8	3		—
		Total,	38

Hence, in a series of 80 cases, we find the maximum number to occur between the ages of 2 and 4 years, inclusive. I have already shown, in another paper (LANCET, Vol. II., 1835–6) that acute hydrocephalus occurs most frequently between the ages of five and seven years.

The diminution in the number of cases after the second dentition which my own table exhibits, is very remarkable, and worthy of notice. Scarcely a case occurred after the age of seven years.

In the preceding remarks I have merely indicated a few of the leading points connected with a lesion which has been, as I have already observed, entirely overlooked by writers on the diseases of children.

Lancet.

Cases of Hydrophobia. By C. F. FAVELL, M.D., &c. — CASE I. Wilkinson, a fine stout man, in robust health, 37 years of age, a grinder by trade, and addicted to habits of intemperance, was seized with symptoms of hydrophobia, soon after getting out of bed, on the morning of the 13th of April, 1837. He had been bitten by his own dog, (which at the time, was not supposed to be rabid,) eight weeks previously. He died on the 15th, at 11 A.M. The body was minutely examined by Mr. Gregory, in the presence of several medical friends. A female attendant stated that nine hours after death, the upper part of the body was so warm as almost to induce her to believe that the man was not dead: The lower extremities were at the same time quite cold. As the woman had not a thermometer, she judged of the relative temperature by her hand.

External Appearance. — The body well developed; face pale; considerable lividity about the lips, anterior part of the neck, clavicles, and posterior parts of the body.

Head. — Scalp and calvarium natural; dura mater slightly congested; effusion of bright florid blood upon the arachnoid membrane, where it covers the posterior portion of the left hemisphere; beneath the arachnoid, considerable effusion of colourless fluid, the membrane itself slightly opaque; the vessels of the brain much engorged, particularly at the posterior part; the substance of the cerebrum darker than natural in colour, and exhibited numerous bloody points when incised; no abnormal quantity of fluid in the ventricles; the pons varolii was of a darker colour than natural, and the substance of the cerebellum was considerably softer than the cerebrum.

When the body was turned over, in order that the spinal chord might be examined, the head being suffered to hang down, a large quantity of very dark-coloured fluid blood escaped.

The *spinal canal* was opened as far as the fifth dorsal vertebra. The external covering of the chord was injected with blood, more especially, in the cervical portion. On slitting open the dura mater, the pia mater was found extremely injected, *and for a short space, commencing at the third dorsal vertebra, infiltrated with air;* the gray substance of the chord was of a darker colour than natural, and the blood-vessels accompanying the nerves, were much congested; when the chord was removed, the membrane beneath it was found to be extremely congested, especially in the cervical portion.

Thorax. — The muscles on the anterior part of the body, well developed, and of a dark-red colour; the vessels of the lungs much congested with dark-coloured blood; in the superior lobe of each lung, there was a deposition of tubercular matter; the bronchial tubes strongly injected; the heart, natural in size, covered anteriorly with fat; the right ventricle contained a considerable quantity of dark-coloured blood, mixed with air; in the left ventricle there was a deposition of fibrine.

The *Pharynx* was livid, and the small vessels were considerably injected; the œsophagus natural; no morbid appearance in the glottis, epiglottis, or larynx.

Abdomen. — The right kidney was small, lobulated, and strongly injected; the left kidney larger than the right, but not nearly so much congested; incipient degeneration of the liver; spleen natural; stomach and intestines healthy.

Case II. Ibotson, ætat 32, a grinder, of intemperate habits, a friend and companion of the subject of the foregoing case, was bitten by the same dog, and on the same morning as Wilkinson. At the time of the bite, he was in good health. For a few days before the 14th of April, he complained of being unwell, of pain in the head, vertigo and listnessness. On the 14th, having heard that his friend had been taken ill, the day before, he went to see him. When he arrived at home again, he expressed himself as feeling very poorly, and then, for the first time, experienced considerable difficulty in deglutition. Symptoms of hydrophobia soon became evident, they rapidly increased, and he died on the morning of the 16th. No unnatural heat was observed in the body, a few hours after death. The *post-mortem* examination took place on the morning of the 18th, and was very ably conducted by Mr. Gregory. There was nothing remarkable in the external appearance; slight lividity about the shoulders, clavicles, and posterior parts of the body.

Head. — Decided congestion of the vessels of the dura mater; effusion of blood beneath the arachnoid membrane, covering the anterior and posterior lobes of both hemispheres; no effusion of serum; the membrane itself opaque. The vessels of the brain congested; the brain itself firm, exhibited numerous bloody points, when incised; effusion of serum on the surface of the cerebellum, and at the base of the skull; the cerebellum was not softer than the cerebrum.

When the body was turned over, after the brain had been removed, a large quantity of dark coloured fluid blood escaped.

Spinal Chord. — The dura mater, covering the chord, was very much injected, but much more so in the dorsal than in the cervical portion. The vessels of the pia mater, as well as those following the course of the nerves, injected; *slight infiltration of air beneath the pia mater, covering the upper part of the dorsal portion of the chord;* the chord itself slightly injected; no effusion beneath it.

Chest. — Lungs considerably congested; adhesion between the pleuræ, on the left side; small hardened granular bodies in the superior lobe of each lung. Heart of moderate size; the left ventricle contained a small quantity of dark-coloured blood, but no air; the right ventricle contained about the same quantity of similar coloured fluid, mixed with air.

The *Epiglottis* and *Larynx* intensely congested; the redness proceeding into the bronchial tubes. In the upper portion of the œsophagus there was an ulcer, but apparently not of recent formation; the rest of the œsophagus healthy.

Abdomen. — Incipient degeneration of the liver, but no congestion; no congestion of the spleen; kidneys healthy; the stomach not injected, but the mucous membrane was of a greenish colour.

Lancet.

Anomalous Disposition of the Colon leading to a fatal result. — [Dr. Buchanan of Glasgow, has published several cases in the London Medical Gazette, the object of which is to prove, that an unnatural disposition of the colon may lead to fatal obstruction of the bowels. It can be, perhaps, hardly proved, that malformation, which is far from uniform in its character, is the real cause of death in all the cases mentioned. We select the following, which is the most accurately reported, as an illustration of the fact the author has attempted to establish.]

James Consul, apparently from 40 to 50 years of age, had long been subject to constipation of the bowels, but never to such a degree as to injure his health. For some time previous to my seeing him, his bowels had been more confined than usual, and he had been troubled with flatulency and swelling of the belly. On examining the belly, I found it much distended, and the swelling had all the characters of tympanitis, being soft, elastic, and resounding on percussion; pulse not affected; calomel and jalap, castor oil, Epsom salts, senna, scammony, elaterium, and other cathartics, with injections, were all tried either singly, or in combination, but to no purpose. On examination, the rectum was found empty; meanwhile, the swelling of the belly went on increasing, until it was truly terrible to behold. In this miserable condition, the patient lay on his back, with his legs bent, and his knees drawn up to avoid all stretching of the integuments of the abdomen. The only other posture he could endure, was resting on his knees and elbows. His mental faculties remained unimpaired to the last; he died in about 8 days from the time I first saw him, and about 12 days from the last evacuation of his bowels.

The body was examined the day after the patient's death. On opening the cavity of the abdomen, the colon enormously distended, and occupying an unusual situation, was the first, and indeed the only object that presented itself; all the other viscera being concealed behind its convolutions. Four immense bags were seen running nearly parallel to each other, and in the direction of the length of the body; while another similar one ran at right angles to them at the upper ends. So extraordinary was this appearance, that notwithstanding my having seen two similar cases previously, it was only after tracing the colon from end to end that I became satisfied that I had as yet seen no other part of the intestines. The colon observed its usual course, till it reached the left iliac region, when it made a sweep to the right, passing behind the pubis, and returning across the lowermost lumbar vertebræ; it then ascended, till it came in contact with the transverse arch, when turning to the right, it descended to the sacrum, thus forming the two middle bags above described. Every part of the intestine was greatly enlarged in diameter, but the enlargement was greatest at its lower end, where it was not less than from 5 to 6 inches in diameter. The upper part of the colon contained chiefly wind, the lower part only fœces of a yellowish-white colour, and of the consistence of very soft mortar. On lifting up the folds of the colon, the small bowels were found inflated to the uttermost; the stomach was empty, and of its usual size; there was no effusion of fluid in the cavity of the abdomen, and the peritoneal covering of the bowels exhibited no traces of inflammation, although there was a good deal of engorgement of the veins of the mesentery.

It will naturally be asked, whether the examination of the body did not afford any explanation of the obstruction of the bowels? To understand the nature of this obstruction, it is necessary to call to mind the description of the colon given above. After leaving the left iliac region, the colon crossed the mesial line of the body behind the pubis; immediately returning, it ascended on the left side as high as the transverse arch, and then it descended on the right side, keeping in front of the inflated small intestines, till it turned back over the promontory of the sacrum, to be bound down to the anterior surface of that bone by the peritoneum. Now, just at the point where it turned backward, and was most pressed upon by the inflated small bowels from behind, it was crossed in front by the beginning of the ascending portion of its own sigmoid flexure. This last part of the intestine was very heavy, the lower part of the colon containing fœces, and nothing else. The obstruction in the colon was evidently caused by one of its own massy convolutions passing it in front, and the inflated small intestines and inferior end of the vertebral column lying behind it. At the compressed part the two sides of the intestine were in contact; immediately below, it was quite empty; immediately above, it was more than 5 inches in diameter, and gorged with fœces; and on lifting up the anterior compressing portion, it left the mark of a quarter of a circle impressed upon the soft fœculent mass in the portion behind. — *Med. Gazette.*

Fistulous opening upon each side of the Neck communicating with the Œsophagus. — Mr. Cusack presented the œsophagus of a man who had been affected with venereal, and had taken mercury irregularly. He was admitted into Stevens's Hospital in a broken down state of health; there was a remarkable fullness on one side of the neck, with two tumours, one on each side of the mesial line, above which, were ulcers apparently of a venereal character; another existed near the clavicle; it subsequently was found that a greater part of his food and drink escaped through the fistula in the neck. The patient died suddenly from symptoms of peritonitis from perforation. A perforating ulcer was found in the small intestines; the ulcers in the neck were found to communicate with the œsophagus by two openings, around which, the appearance of disease in the tube were much slighter than could be expected in a case of the kind. Mr. Cusack, however, believed that the ulcerative process had begun in the œsophagus; the trachea was healthy. Mr. C. was not aware that any similar case was upon record. — *Dublin Journal.*

Contributions to Intra Uterine Pathology. — Dr. James Simpson has recently published some interesting observations on the disorders incidental to fœtal life. In his second communication on this subject, (*Edinburgh Medical and Surgical Journal, July*, 1839,) he has shown very satisfactorily, that many forms of congenital hernia, as well as several varieties of malformations, both in the way of displacement and of arrested developement, in the digestive, urinary, and genital organs, may be referred to peritoneal inflammation and consequent adhesions occurring among the viscera of the abdomen during the developement of the fœtus in utero.

Among the forms of hernia thus produced, he enumerates umbilical, diaphragmatic, and inguinal hernia. The malformations by displacement that may result from fœtal peritonitis, must be varied according to the precise seat of the inflammation, its extent, and the period of fœtal life at which it is established.

The displaced organs may be seen, first, in some of the temporary positions assumed by them during their evolution, and which they occasionally continue to occupy in cases simply of arrested developement. Or, secondly, they may be found drawn to a greater or less extent out of their position, in consequence of the contractile power exerted by false membranes that form upon their surface.

There is, according to Dr. Simpson, reason to believe, that inflammatory action in the other serous cavities of the embryo, may lead to occasional malformations among the contents of these cavities. In this way he accounts for several malformations and displacements of the thoracic viscera; and, says he, there is much reason to suppose that one or two varieties of anencephalous malformations are truly referable to the purely physical effects of hydrocephalic inflammation and effusion.

He has, further, endeavoured to trace several varieties of malformation to a similar origin. Thus, the extroversion of different organs, and the disfigurement of the limbs or surface of the body, may be referred to inflammatory adhesions that are occasionally formed between the embryo and the inner surface of the amnion. "I have," says he, "in my possession, a preparation of a malformed fœtus of about 14 weeks, in which an inflammatory effusion has taken place in different parts of the surface of the body, and has firmly united one of the hands to the corresponding cheek of the embyro."

New mode of preparing the Tincture of Digitalis. By Mr. Donovan of Dublin.—It consists in plucking the proper leaves off the living plant, in the spot where it grows, instantly throwing them into the strongest alcohol, digesting for 6 weeks, pressing out the tincture, and filtering it.

Here all the sources of deterioration are obviated, and we preserve the virtues of the recent plant unimpaired.

The ratio of the recent plant to the rectified spirit may be so contrived that the resulting tincture shall correspond with the ratio of the dried plant to the proof spirit, as indicated in the Dublin Pharmacopœia.

In order to do this, let 10 ounces and a half, Troy, of leaves be pulled from the growing plant, and plunged into a bottle containing two pints and three-quarters (wine gallon measure) of alcohol 0.815. The strength of the alcohol will be reduced by the water to the strength of rectified spirit 0.840, and after the proper digestion a brilliant green tincture will result, as perfect as it is possible to procure it. The strength of this tincture compared with that produced by the Dublin Pharmacopœia will be, so far as ratio is concerned, as one to three, and hence it might be given in three times the quantity for a dose. But as there is every reason to believe that its strength is incommensurate with this ratio, it might be prudent to begin with the same doses as have been always employed. In this case the leaves will be covered by the alcohol; but a month's digestion, in a warm place, will be required, with frequent agitation. *Dublin Journal.*

On the Effects of Bloodletting and of Blisters to the Chest, in the Pneumonia of Children. By M. Alfred Bequerel. [The report of M. Bequerel is founded on an analysis of cases collected at the Children's Hospital, Paris. It may serve as a useful appendix to the work of MM. Rilliet and Barthez, which is analyzed in the present number of the Journal; but it should ever be borne in mind, that the cases which occur under the circumstances before us, are not the most favourable cases by which to judge of the efficacy of an active anti-phlogistic treatment.]

From the 1st of April to the 1st of October, 1838, 421 children entered the female wards devoted to the reception of acute diseases, dartrous affections, and opthalmia — of these 133 died — Amongst them there were as follows: Simple pneumonia 15 cases, of which 11 died. Measles 59 cases — complicated with pneumonia 21 cases, of which 20 died. Smallpox 16 cases — complicated with pneumonia 4 cases, of which 3 died. Scarlatina 10 cases — complicated with pneumonia 1 case; 1 died. Typhoid fever 18 cases — complicated with pneumonia 2 cases; 2 died. Hooping cough 14 cases — complicated with pneumonia 5 cases; 5 died. The plan of treatment in the cases where the pneumonia appeared to constitute the principal disease, was 1st, bloodletting, and after that blisters to the chest. The state of the constitution, the strength of the pulse, the degree of reaction, the heat of the skin, were the guides as to the extent, &c., of their employment.

In simple pneumonia, bloodletting appeared to be useful in 4 cases, all children above 5 years of age, and who were attacked while in perfect health — the commencement of resolution dated from the 7th to the 10th day — blisters were also used in these cases. In the remaining cases, bloodletting, both from a vein and by leeches, generally, did no good: it sometimes lessened the strength of the pulse, and improved the local symptoms; but commonly it did harm by increasing the debility, and, apparently, by adding to the danger of congestion of the bronchi, which is sometimes the immediate cause of death. Blisters appeared equally useless. In some cases, the pain they created induced a state of restlessness which could not but be injurious. The medium duration of the fatal cases was 10 days.

In the cases where pneumonia existed, as a complication of rickets or of tubercles, bloodletting, &c. never appeared to be useful, and often injurious.

In the cases where the pneumonia existed as a complication of measles, the effect of bloodletting and of blisters was even less useful than in the simple cases. This mode of treatment appeared to weaken the patients and, perhaps, hastened their death. In 15 of these cases the pneumonia appeared at the same time with, or during, the progress of the eruption — in the remainder, during, or after, the period of desquamation. In the cases where the disease existed as a complication of whooping-cough, scarlatina, smallpox, &c., this treatment produced no better results. *Arch. Gen. de Med., April*, 1839.

Present Condition of the Profession of Medicine in Spain. — Judging from what I have seen of the medical men in Spain, I do not think them worthy of the odium and disrepute under which they suffer in other countries. It cannot be denied that they are, and have been for many years, behind the members of the profession of several other kingdoms of Europe in improvement; that they have made few discoveries in the nature and treatment of diseases; in the proper method of curing wounds, fractures, and other injuries; or in the construction of instruments and apparatus; or in chemistry, and other collateral sciences. But, still, they are not as unskilful and as illiterate as they are represented; and whether they are deservedly so or not, it is certain that they possess great respectability and influence with all classes of society. Indeed, it is not a little surprising that, amid all the revolutions, and many disturbances which have taken place of late in the kingdom, its faculty have been permitted, in a great degree, to remain in a comparative state of tranquillity; and while the members of every other profession have been retrograding, and the all-powerful priesthood have been reduced to the lowest condition, that they have continued unchanged, and have maintained themselves in all their pristine prosperity.

It appears to me that one of the principal causes of the disrepute in which the Spanish faculty is held by their brethren, is the very small compensation they are said to receive for their services. Their compensation, measured by a foreign standard, is truly moderate and inadequate, but in reality is not so much so as believed; for, in the first place, their fees being low, they are oftener employed; and, in the second, they are paid in cash, so that they do not, from having long accounts and numerous charges against their patients, appear to be in the receipt of very large incomes, and yet have, in fact, very small ones, as is the case in the United States and other countries, where accounts are kept for professional services rendered. Moreover the Spanish physicians enjoy very great advantage in this respect, that they have none of their practice taken away from them by quacks, and the unlimited sale of nostrums; for neither the former nor the latter are permitted — laws existing for the suppression of all such nuisances to the profession and to the public.

From the Spanish faculty partaking in a great measure of the reserve peculiar to the nation, I was not able to learn as much of them as otherwise I should; but, from what I could observe, they may be said to be polite and dignified in their manners; as well, if not better, informed than any other class of men in Spain; and in their profession much more practical than theoretical; being little given to writing. In this respect, they are extremely singular, for an original professional work is nearly unknown; and even to periodicals they seem to have an antipathy: for, according to what I could learn, the only one published is in Madrid, and this has so limited a circulation that it was impossible for me to obtain a single copy. For recent information they rely almost exclusively on French publications, and chiefly on the periodicals published in Paris. The only English works I met with were those of Cullen and other medical authors of about the same period. These works were mostly translated into Spanish. Of those by American authors I met with none; and the Spanish physicians seem to be acquainted with few of even the most celebrated of them. Finally, in consequence of the perusal of French publications, Spain having been so often over-run by their

armies, and many of the Spanish faculty having been partly, if not altogether, educated in the medical schools of France, their practice appears to be chiefly that of the modern French school, though it still partakes considerably of the ancient practice in Spain and other parts of Europe.
Horner, in Bell's Med. Lib.

Ivory Bougies.—M. Charrière, the surgical instrument maker of Paris, has exhibited to the Academy bougies made of flexible ivory, prepared by extracting the calcareous matter. They have this advantage over the elastic bougie, that they can be prepared in a few days, while the latter require months. They have also this practical advantage, that when dry, the desired curve may be given to them which is retained. The drier they are when introduced, the more they expand, without losing their firmness.

New Method of Cauterizing the Urethra. — Among the novelties presented to the French Academy, is a new instrument for cauterizing the urethra, on the principle of the hydrogen lamp. A piece of platina sponge is fitted to the end of a hollow gum-elastic sound, which serves to transmit a current of hydrogen gas; the gas ignites the platina, and thus the stricture may be cauterized! We wonder what will be the next improvement in the treatment of this disease. Might not the instrument be so modified as to transmit, at the same time, a current of oxygen, and thus *make water* for the patient — a great desideratum in such cases?

THERE are now four medical schools in successful operation, in this State. As the time has arrived for them to commence their course of instruction for the season, we would express our wishes for their continued success, as well as for their improvement in all that may contribute to the advancement of medical education. We do not forget that the first effort in this country, in favour of medical education, was made in this city, and that the present College of Physicians and Surgeons, one of the oldest now in operation, has been the nursery of many of the ablest and most eminent men among us. The new session will introduce two new lecturers, of whom much is expected. We understand also, that the Professor of Anatomy will open the dissecting rooms immediately, and that he will devote much of his time to individual instruction. It is to be hoped that our students will awaken to the great importance of this branch of elementary study, which, it must be confessed, has been too much neglected of late.

The new Albany school, commences its second session to-day. The professors are sanguine in their expectation, of drawing together a large class. The munificent manner in which this Institution has been endowed, must afford great gratification to every liberal minded member of the profession, as an evidence that its true dignity and importance has been properly appreciated. It stands in striking contrast with the miserable policy of the council of the University, which overwhelmed the opening of a fair prospect for increasing the medical reputation of this city. We profess to be the friends of a generous rivalry, as a great means of improvement, and we believe the nearer this is brought home, the better.

The schools at Fairfield and Geneva, we understand, are also just commencing their courses of lectures. We shall be glad, at any time, to receive their support, and to merit any assistance in forwarding the great object for which we are all pledged. It is certainly our well-founded belief, that a State which contributes so largely to the education of medical men, will engage, also, in support of a project whose aim it will be to advance the same object. No one doubts the ability, — it remains to be seen if the inclination exists.

Medical Society of the City and County of New-York. At the Anniversary Meeting, in July, the following gentlemen were unanimously elected officers for the ensuing year: F. U. Johnston, *President;* W. W. Miner, *Vice-President;* Benj. R. Robson, *Treasurer;* Benj. B. Coit, *Corresponding Secretary;* Dudley Atkins, *Recording Secretary.*

Censors: — Isaac Wood, James O. Pond, Henry D. Bulkley, James Macdonald, and Thomas C. Chalmers, vice A. E. Hosack, who declined serving.

Delegate: — C. R. Gilman, vice J. R. Manley, resigned.

A Committee was appointed to revise the By-Laws.

A Committee was also appointed to see that the law, (passed by the Legislature of the State, May, 1836,) in relation to the admission of persons from other States, and from foreign countries, be duly enforced. The law is the following: "No person coming to this State from another State, or country, shall be admitted as a legal practitioner of medicine, until he shall have been examined by the State Medical Censors." The State Censors are Drs. E. G. Ludlow, J. R. Manley, and J. C. Cheesman.

College of Physicians and Surgeons. Dr. John R. Rhinelander has resigned the Chair of General, Surgical, and Pathological Anatomy, in this Institution. We are informed that the Professor of Descriptive Anatomy, and the Lecturer on Surgery, will instruct in these branches during the coming session.

Bloomingdale Asylum. Dr. Wm. Wilson has been elected Physician to this Institution, vice Dr. Benj. Ogden, resigned.

Brooklyn Hospital. The Common Council of Brooklyn has appropriated a small sum for the establishment of a Hospital. A much more liberal grant will be necessary for its successful operation. It is to be hoped, that time will effect this.

Dr. H. Green of this city, has been elected Professor of the Theory and Practice of Medicine, in the Vermont Academy of Medicine, at Castleton. He has declined the appointment.

Paris Medical Gazette. We notice in the daily papers, a "Prospectus," to translate and republish this excellent periodical, in this city.

Baltimore Journal. We are informed that a new Quarterly Medical Journal is about appearing in Baltimore, at the low price of $2 50 per annum. Its size, however, will be considerable smaller than that of most of the Quarterly Journals.

Jefferson College. Drs. Colhoun and Geo. McClellan, have been succeeded by Drs. Huston and Pancoast, in the Professorships of Materia Medica and Surgery in this Institution.

Cincinnati College. The Medical Faculty belonging to this Institution have resigned. Dr. Drake, we understand, has accepted an appointment in the Louisville Medical Institute.

London. Dr. Chambers, after twenty-three years of service, has resigned his situation as physician to St. George's Hospital. Dr. Hope, the well-known writer on Diseases of the Heart, has succeeded him. Dr. C. J. B. Williams, an excellent writer on Diseases of the Chest, has succeeded Dr. Eliotson, as Professor of Medicine in University College. He also takes Dr. E.'s place, in the North London Hospital, which is the Clinical School to the University.

Dublin. A great meeting of the Physicians and Surgeons of Ireland has been held at Dublin, for the purpose of attempting some reforms in the existing Medical Institutions of that country. The principal objects of the meeting appear to have been the following: To unite the profession, i.e. those entitled Physicians and Surgeons, in one body; to exclude the class of Apothecaries from the practice of medicine; to establish permanent regulations for insuring a thorough medical education,—this alone conferring the right to become members of the new college; —all persons thus admitted, to be entitled to equal privileges.

Paris. M. Trousseau has been elected Professor of Materia Medica and Therapeutics, in the School of Medicine, in the place of the late Baron Alibert.

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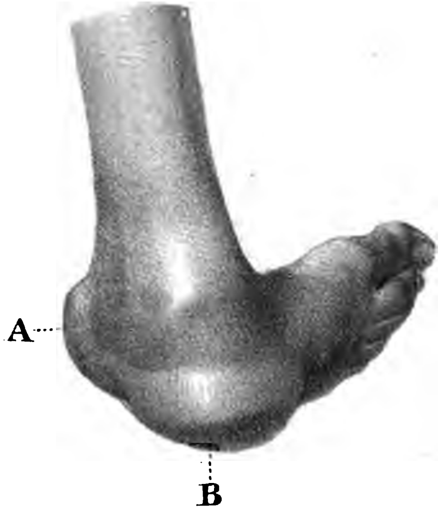

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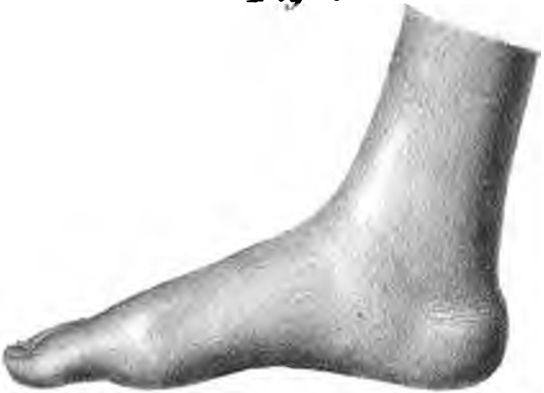

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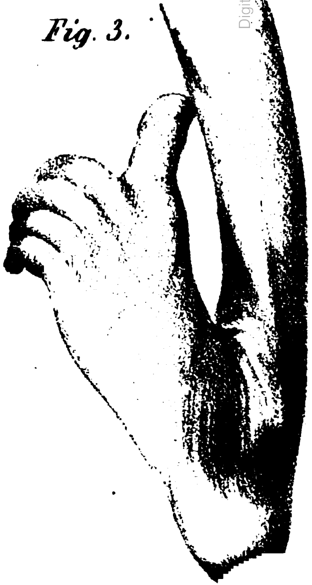

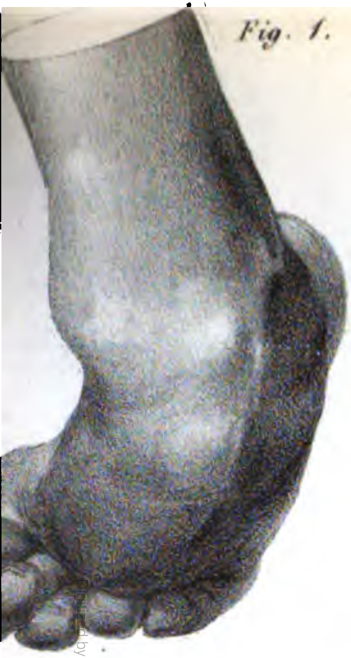

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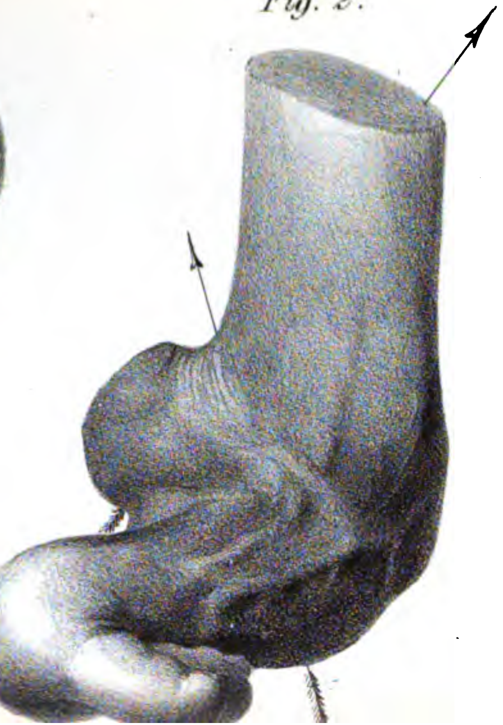

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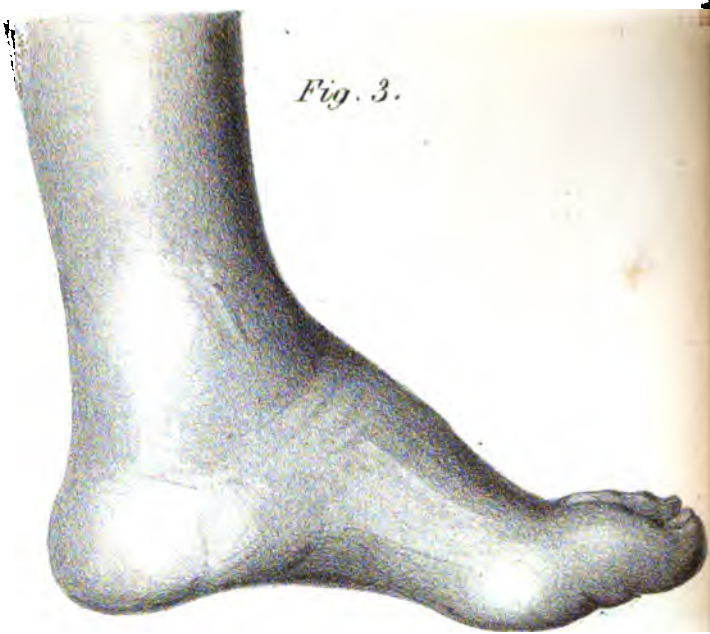

Fig. 3.

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CONTENTS

OF THE

NEW-YORK JOURNAL OF MEDICINE AND SURGERY.

No. IV.—April, 1840.

PAGE

Art. I. Case of Osteo-Sarcoma of the Upper Jaw successfully treated by Extirpation. By Alexander H. Stevens, M. D., &c. 249

Art. II. Cases of Chorea Sancti Viti, illustrating the efficacy of the Arsenias Potassæ as a remedial agent. By D. M. Reese, M. D., &c.. 255

Art. III. Cases of Tetanus with remarks. (Read before the New-York Medical and Surgical Society.) By Dr. Clark Wright. 260

Art. IV. Cases of Variola with remarks. By Charles R. King, M. D. (Read before the New-York Medical and Surgical Society.) . . . 289

Art. V. Spinal Irritation; its Pathology, History, and Treatment. Illustrated by Cases. (Read before the New-York Medical and Surgical Society.) By John H. Griscom, M. D. 300

Art. VI. Researches on Hernia Cerebri following Injuries of the Head. (A Quarterly Essay read before the New-York Medical and Surgical Society.) By Gurdon Buck, M. D., &c. 348

HOSPITAL REPORTS.

Report of Cases treated in the New-York Hospital during the month of January, 1840. By Alfred C. Post, M. D. 363

Report of Cases of Organic Disease of the Heart and of other Diseases occurring in the Medical Wards of the New-York Hospital during the year 1839. By E. T. Richardson, M. D., Senior Walker. 374

An Essay on Phlegmonous Tumours of the Iliac Fossæ. By A. Grisolle, M. D., formerly *Chef de Clinique* at Hotel Dieu, Paris. Translated and abridged from the French. By C. L. Mitchell. M. D. 390

REVIEWS AND BIBLIOGRAPHIC NOTICES.

I. A Treatise on the Diseases of the Heart and Great Vessels, and on affections which may be mistaken for them. Comprising the author's View of the Physiology of the Heart's Action and Sounds, &c. By J. Hope, M. D., &c. Third edition, corrected and greatly enlarged.

II. Report of Experiments on the Action of the Heart. By C. W. Pennock, M. D., Physician to the Philadelphia Hospital, and E. M. Moore, M. D. late Physician to the Frankford Asylum, ... 417

PAGE

Anatomical Pathological and Therapeutic Researches on the Yellow Fever of Gibraltar of 1828. By P. C. A. Louis, Physician to the Hotel Dieu, &c. Translated from the French, By G. C. Shattuck, jr. M. D. &c. 436

Des Pertes Seminales Involuntaires. An Essay on Involuntary Seminal Emissions. By M. Lallemand, ... 447

An Inquiry concerning the Diseases and Functions of the Brain, the Spinal Cord, and the nerves. By Amariah Brigham, M. D. . . . 464

The Maryland Medical and Surgical Journal and Official Organ of the Army and Navy of the United States. No. I. Jan. 1840, ... 467

SCIENTIFIC INTELLIGENCE.

Proceedings of the New-York Medical and Surgical Society, . . . 469

MISCELLANEOUS NOTICES.

DESCRIPTION OF THE PLATES.

Plate I.—Represents the external appearance of the tumour before the operation.

Plate II. — Gives an internal view of the cavity left by the tumour after its removal.

A.A.A. Flaps of the common integument turned upward and backward.
B. Globe of the eye, with the inferior oblique muscle attached.
C. Septum Narium.
D. Remaining portion of the roof of the mouth.
E. Posterior orifice of the nostril.
F. Tongue.
G. Section of the Superior Maxillary Bone of the left side.

Plate III. — Represents the appearance of the patient five months after the operation.

THE

NEW-YORK QUARTERLY JOURNAL

OF

MEDICINE AND SURGERY.

FOR JANUARY, 1840.

Art. I. *An Essay on Club-foot, and some analogous Diseases.* By W. Detmold, M.D., of New-York.

From time to time we have seen in medicine new theories started, and based upon these, new methods of healing different diseases. These theories have found violent opposition or warm defendants and followers amongst the profession. They have flourished for a brief space of time until either their insufficiency has been proved by experience, or the novelty of a later started theory has thrown the old one into the back ground. The very nature of medical science, which allows ample ground for speculation and seldom admits of facts being positively proved, has subjected our profession, from its very infancy up to the present day, and with it the suffering human race to a succession of new theories, most of which afforded only a negative benefit or a laughing stock for the ensuing centuries. Yet a history of all the speculations, dreams, paradoxes, and absurdities, which in succession have been set up as unfailing theories and axioms in medicine, would furnish an interesting contribution to the history and developement of the human mind in general. However, as this topic is foreign to our subject, we must abandon it, and turn to a branch of the healing art, which although not always exempt from speculation, still has something more positive, being based upon more palpable facts, — we mean surgery. Modern times have added great improvements to almost every branch of surgery, some of them, it is true, more creditable to the ingenuity of their authors than advantageous to science, but taken together they satisfactorily show that surgery has made more progress, and has been enriched with more important improvements within the last fifty years, than in any preceding five centuries.

The latest, and as we confidently pronounce it, the most important addition to surgery, is the treatment of club-foot and analogous diseases. But in claiming such a valuable discovery for our century, we will be just and give credit where it is due. The first who gave an accurate description of club-foot, a description which proves a full knowledge of the nature of the disease, the first who gave rules for its cure, — rules which in almost every particular hold good at the present day, — was the great father of medicine, Hippocrates. He describes it in the sixth section of his book De Articulis, as a partial displacement of the bones of the foot, advises bandages, etc. for reducing them to their proper position, and expressly urges "neque magna vi sed leniter cogantur." There is no doubt but that he had been successful in his treatment, for he says the cure is quicker than any body would have believed. He then makes a remark which might possibly be so construed as if he had thought already of the division of tendons for the cure of club-foot, but we doubt much whether such was the case. As Dr. Little* makes this remark, we give his own words: "An observation which would have passed unheeded prior to the introduction of the division of the tendo Achillis follows, — 'atque quidem est curatio, et neque sectione neque ustione neque alia varietate quisquam opus habes,' — of the import of which doubts may now be entertained. Whether Hippocrates or any of his contemporaries had discovered the means of curing this distortion by section of tendons, but preferring the application of bandages, nevertheless rejected it, or whether he employed this observation with a different meaning, cannot at the present day be decided. It is possible that Hippocrates, being accustomed to

* A Treatise on the Nature of Club-foot, etc. by Dr. Little. London, 1839.

cure external disorders by the knife or cautery, may have adduced his treatment of this disease as an exception to the more severe methods so frequently resorted to in other affections, whilst it would not be surprising, if by his ingenuity and skill he had detected the possibility of removing the obstacles to a cure by division of the tendons. He may have apprehended suppuration and other unfavourable symptoms from the section of so important a tendon as that of the Achillis, or having been unsuccessful in his first attempts, he may have been deterred from a repetition." Our opinion is that this paragraph speaks more for our friend Dr. Little's talents as a classical antiquary, than for the antiquity of the operation. But it is truly astonishing that since Hippocrates' times until within the last century, the treatment of club-foot has not only not been improved, but from neglect, has rather retrograded; and for a long space of time in the dark middle ages, it was entirely abandoned, because, at that time, such distortions were considered as the effects of some superhuman power; and an attempt to counteract these, might have been more dangerous to the surgeon than even to the patient himself.

Celsus does not mention the disease; but Marcus Aurelius Severinus, Ambrosius Parœus, Fabricius of Aquapendente, Dyonisius, and others, mention it, and recommend different instruments, as lead or iron boots, for the cure; but no improvement upon Hippocrates' method was made, many of them being even far inferior to his.

Towards the end of the last century, Venel, a Swiss physician, established a hospital for the cure of distorted feet, and acquired great reputation by his success; but he kept his method secret. Wantzel, an assistant of Venel's, however, made it public in his Dissertatio de Talipedibus Varis, Tubingæ, 1798. It consisted chiefly in the application of mechanical instruments. In the beginning of the present century, Scarpa published his Memoria Chirurg. sul piedi distorti congeniti, etc. Pavia, 1803. Scarpa did not make use of the knife, but cured the feet merely with an apparatus, without the division of tendons; yet to him and his publication the profession owes in a great measure, the rapid and brilliant progress which the treatment of this deformity has made of late.

As early as 1784, Thilenius of Frankfort first suggested the division of the tendo Achillis for the cure of club-foot, and not being a surgeon himself, had the operation performed by one of the name of Lorenz. After him Michaelis and Sartorius performed the operation, and were partly successful. Michaelis, however, did not separate the tendon entirely, but considered the division of a part of it as an improvement upon Thilenius' method. But although the way these men had struck upon afterwards proved to be the right one, they did not base their mode of proceeding upon scientific principles, and consequently found no followers, until the same subject was again taken up by Delpech. He, with his genius, discovered the right principle of dividing the tendon, and performed the operation in 1816 for the first and for the last time, for owing perhaps to his method of operating, (he made a large wound in the integuments, and made extension immediately after the division of the tendon,) or because the constitution of the patient was unfavourable, he met with serious difficulties, as inflammation, sloughing of the tendon, etc. but succeeded in restoring the foot; yet these difficulties and the general disapprobation of the profession, seem to have made him diffident. Certain it is that he did not perform the operation again; and remarkable it is, that in a later publication on the treatment of distorted feet, he did not recommend it, omitting even the account of the case in which he had operated.

Thus the operation fell again into oblivion:—* for fifteen years at least, no surgeon undertook it, until in 1831 Dr. Stromeyer of

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* We had a few days ago a call from a gentleman now about 30 years of age, who had in the year 1834, at the age of 25 years, his right leg taken off by one of the most eminent surgeons of this city, merely because he had a club-foot, the callus of which was subject to frequent inflammation and gathering. As the cause of these frequent attacks, the pressure upon the callus from walking, could not be removed, amputation above the ankle was resorted to as the only means of relief. He had accidentally met one of our patients who had been cured of a similar deformity on both feet, and took such an interest in the matter that he called on us to see the casts of the feet; and finding that they had been even worse than his, he bitterly, but too late, lamented the loss of his limb, which he was now convinced could have been restored. We report this fact, not for the purpose of blaming the surgeon who performed the amputation, but merely to show what little impression Delpech's case had left on the profession, for there was not even an attempt made to cure the deformity previous to amputation.

Hanover, performed it again on a lad nineteen years of age. Stromeyer adopted, and followed on the whole, the principles and rules which Delpech had laid down, but he made the external wound smaller, and did not extend the foot immediately after the operation, as Delpech had done, for the purpose of trying how far it would yield. A complete success encouraged him to repeat the operation, and to lay the result before the profession. The number of cases that have been since successfully operated upon in almost every country have, in a very short time, secured to this operation a legitimate place in the rank of scientific surgical operations.

No sooner was this most important question settled, than, as might have been expected, the comparatively unimportant question was discussed to whom the merit was due. The French surgeons of course, with true national nonchalance, attributed it altogether to Delpech, but from the brief historical sketch which we have given, the impartial reader may judge for himself. It may not be uninteresting, however, to repeat here how Sir Astley Cooper expressed himself on this subject: Dr. Stromeyer, in his lately published work on club-foot, gives, (p. 28,) in a note, an extract from a letter, which he received from Dr. Little of London, Jan., 1837. As this expresses the opinion which so eminent a surgeon as Sir Astley entertains, not only of the merits of the discovery, but also of the merits of the operation itself, we will copy it literally. "Sir Astley Cooper saw the youth, in whom the three tendons have been divided, before the operation, and wishes to see him when cured, so that this case must, even if there were no other incentive to exertion on my part, be made to do well. He has also seen another case which I did seven weeks ago, in which the deformity had been very great; the worthy knight and truly liberal surgeon was quite delighted, and hails your introduction *de novo* upon sound basis of tendon cutting, as one of the greatest improvements in modern surgery; he said, he regretted only that the merit was not due to one of his own countrymen. He said, also, if he had not seen the cast of the hideous deformity cured by me, which I showed him at the same time as the cured patient, he would never have believed so much could be done by tendon cutting and steady employment of extension. He remarked, also, that Lord Byron would have given half his fortune to have been cured, still he did not so much regret that you had not come forward ten or fifteen years earlier, as you would have spoiled Lord Byron as a poet."

The operation was soon after repeated by other surgeons in different parts of Germany, in France, and in England. In the beginning of September, 1837, I performed the operation in New-York, and repeated it several times soon after; and in the number of the American Journal of the Medical Sciences, for May, 1838, I published a report of several successful cases. As no notice had appeared before that time, in any publication, of this operation having been performed in America, I was induced to believe that I had been the first surgeon who had performed it on this side of the Atlantic, and, indeed, for a short time I enjoyed the credit of it, until soon after, Dr. Dickson of N. C., and Dr. Smith of Baltimore, claimed the priority. As the medical periodicals of this country had given me the credit of its introduction here, Dr. Stromeyer was misled to believe it, and I herewith make to those gentlemen an apology for my friend, for saying in his work on club-foot, "Dr. Detmold, late surgeon of the royal Hanoverian army, commenced his practice in New-York, with a series of successful divisions of the tendo Achillis. The enterprising surgeons of America had until then not undertaken this operation, although my essays in Rust's Journal had been translated in the American medical periodicals." But although I have thus no claim to the priority,—Dr. Dickson having operated once in 1835, two years before me, and Dr. Smith in 1836,—yet, as neither of these gentlemen, nor any other surgeon in this country, had reported any cases of the operation before I began, and as since the publication of my report, several hundred cases (of which number, however, I claim the greater part myself,) have been operated upon in the different cities of the United States, I say, from these circumstances, I am inclined to believe that I have done something for the introduction and establishment of this operation in this part of the world.

Causes. The fact that the deformity known by the name of club-foot, exhibits, more or less, in every case, the same form and always the same leading and characteristic symptoms, proves sufficiently that the congenital club-foot is not an accidental deformity, not one of the unaccountable freaks of nature, but that the developement of it is subject to certain fixed principles and laws. This becomes yet more confirmed by the fact, that we often see the same deformity developed after birth, in an originally well shaped limb, where we can watch and observe the operations of nature in producing it. The anatomical examination of a club-foot, and the due physiological consideration of the causes which produce the same after birth, leads us at once to the true knowledge of the nature of the disease, the full understanding of which leads us again to the proper treatment, the success of which, when consistent with theory, serves again as an additional proof of the correctness of the theory itself. The anatomical examination of a club-foot shows that in every case the muscles are the parts originally affected, and that all the changes which the other parts involved in the deformity may have undergone, are secondary. We wish to be well understood;—we call the muscles the parts originally affected in every case of club-foot, (for so they are even if the deformity should, for instance, be developed in consequence of an ulcer on the foot, or of caries of a tarsal bone;) in such cases, these would be only an accidental cause of the affection of the muscles, but which in itself has nothing to do with the deformity. Besides the affection of the muscles is sufficient to explain satisfactorily all the symptoms of the disease.

The whole muscular system is so arranged, that on one part of the body, or of a limb, we find one set of muscles for one particular motion, and on the opposite side we find another set for the opposite motion; we find on one side of the limb the flexores, and on the other, the extensores; on one side, the pronatores, and on the other, the supinàtores; the adductores, and abductores; and so on. These separate antagonist sets are, with few exceptions, if not of equal strength, at least of a proportional strength, so as to counteract each other, and by keeping an equilibrium between themselves, preserve free motion of the limb. If this equilibrium is disturbed, free motion ceases, and the limb is drawn to that side on which the muscles are so strongly contracted that their antagonists are thrown out of action. If this occurs in the muscles of the neck, the disease is called torticollis, or wry neck; if in the fore-arm and head, the club-head; if in the leg and foot, the club-foot. Although, as we have just remarked, the antagonist sets are in general of a proportional strength for the sake of preserving the equilibrium; yet, as a general rule, the flexores are stronger than the extensores, the pronatores stronger than the supinatores, and the adductores stronger than the abductores. In a few instances this respective difference is greater, and it is greatest in the muscles of the lower jaw and of the calf. The muscles which close the jaws being, for very obvious reasons, infinitely stronger than those which open the mouth,—and the muscles of the calf, which, when the body is raised on the toes, have to bear the weight of the whole body, must also, of course, be endowed with great power; whereas their antagonists require comparatively very little. This is no exception to the above-mentioned general rule, that the flexores are, in general, stronger than the extensores, for although the muscles of the calf are commonly called the extensores of the foot, they ought, according to their situation on the back part of the limb, and according to the whole arrangement of the bones, to be called the flexores of the foot, and, in fact, some modern physiologists and anatomists, Rudolphi and Von Walther for example, have already adopted this nomenclature, and called the gastrocnemii and soleus muscles flexores.

When this difference in strength between the antagonist sets of muscles is greater, the equilibrium is oftener and easier disturbed, and if so, it is generally in favour of the naturally stronger set. Irregular muscular action, therefore, manifests itself through contractions of the flexores; thus, in an epileptic fit we find the hands shut, the thumbs clenched, and the jaws often so forcibly closed that the tongue is sometimes severely wounded by the teeth; and where the predominance of one set is still greater, as in the case of the muscles of the jaw and calf, we find these often, even from general causes, exclusively and sometimes permanently affected. Thus if an injury or a wound seriously disturbs the nervous system, we find the effect of it is a contraction of the masticator muscle — trismus; or if the cause of irregular muscular action is of a different nature, we find the muscles of the calf contracted, and if this contraction lasts, club-foot is, eventually, the consequence. This fact, viz. that the strongest set of muscles (in the leg the muscles of the calf,) will contract from a general cause of irregular muscular action, illustrates one cause, and by far the most frequent cause, of club-foot. Congenital club-foot is in almost every instance produced in this way.

But the equilibrium between the muscles may be disturbed in another way. If the whole muscular power of the body, or of a limb, is paralyzed, the stronger sets of muscles offer a greater resistance to the paralyzing influence: even after death, the flexores show their superiority in strength over the extensores: if the galvanic fluid is applied, it produces a contraction of the flexores; and a fact still more remarkable is, that the flexores are longer sensible to the galvanic stimulus than the extensores; that is, the flexores still react upon the galvanic stimulus after the extensores have ceased to do so. Again, when the muscular system begins to recover from the paralysis, the stronger muscles recover their action earlier than their antagonists. This accounts why, after a paralysis, we generally find contraction of the flexores; thus we find after a paralytic stroke, the head, fore-arm, or fingers bent, and if the same takes place in the leg, club-foot is developed. This is the most frequent cause of club-foot after birth.

There is a third cause of club-foot yet to be considered, viz: when a local cause acts directly on the muscles as a stimulus to contraction: for instance, a sore on the foot, or any other local cause, which keeps the gastrocnemii for any length of time in a contracted condition, and throws their antagonists out of action. The contraction then becomes habitual, and club-foot is the consequence.

We have thus particularly tried to explain these three different causes of club-foot, because they furnish a distinction which is of more influence upon the prognosis and treatment of this disease than the hitherto adopted distinction of congenital and acquired club-foot. A few words will sufficiently illustrate this.

The club-foot from spasmodic contraction of the muscles, is more difficult to cure than any other.

The club-foot, after paralysis, is easier cured, but it often requires a long time, and particular attention, before the patient can walk well.

The third class, club-foot after habitual contraction, without spasm or paralysis, admits of the most favourable prognosis, the patients are easily cured, and almost immediately after the cure walk perfectly well.

Many physiologists, losing sight of the nature of the disease, have tried to explain the frequent occurrence of congenital club-foot by different conjectures, and, as it happened, club-feet have been squeezed into various theories. Ambrosius Parœus did not hesitate to ascribe it, altogether, to the circumstance, that the mother, during pregnancy, had been sitting too much with her legs crossed. The idea, also, that the mental influence of the mother could produce deformities in the fœtus, if her imagination had been shocked during pregnancy, by the the sight of such patients, found at the time when physiology was yet still more groping in the dark than it is now, believers among the profession, and amongst the people it is still a popular belief. Benjamin Bell considers club-foot as always a consequence of malformation in the leg, especially of the malleolus internus. Meckel's ingenious theory of defective developement, —arrêt de developement,—was, of course, also applied to explain club-foot, but, in the generality of cases, there is no defective developement; all parts are properly developed, and if there is a defect in some part of the limb, it is either accidental or consecutive. Those who have defended the theory, that club-foot was a deformity, by arrêt de developement, have even gone so far as to assert, that at some early period of uterine existence every fœtus had naturally club-feet; but this is evidently creating facts to support a theory, and ingenious as this theory of Meckel's is, and applicable as it undoubtedly may be in many deformities, yet in club-foot it cannot be made available. Conceding that defective developement does not explain the subject, others have tried to explain it as an excess of developement; but the whole theory of excessive developement seems to be nothing but a subterfuge, where Mickel's theory is insufficient, and, at any rate, explains nothing about the formation of club-foot.

A theory has lately been started in Paris, by Martin, which gave rise to some interesting discussions in the Academy of Medicine, and which, amongst a few others, found a defendant in Cruvelhier. Martin ascribes all club-feet to the want or deficiency of amniotic fluid, and to the pressure of the uterus upon the fœtus in consequence of it. To obviate, at once, objections in cases where children have been born with club-feet, and where an abundance of amniotic fluid was found, Martin tries to establish the doctrine, that the fluid may be abundant at the time of birth, which, nevertheless, had been deficient at some earlier period of pregnancy. Even if we admit this, being an assertion for which no facts can be adduced either *pro* or *contra*, and which evidently is made to support so untenable a theory, we say, even if we admit this, there are cases extant where the amniotic fluid was deficient; — for instance, after injuries received some time before delivery, which ruptured the membranes, and where the children are born with straight feet. Besides, it is not likely a cause, like pressure of the uterus, would produce, in all cases, the same form of malformation—in the feet; such a mechanical and accidental cause would be more apt to produce different and accidental malformations in different parts of the body of the fœtus, and would, probably, affect other parts oftener than the feet, which, being more movable, would more easily escape the effects of pressure.

The explanation of the nature of the disease, which we have given above, and which is adopted by the best modern physiologists, and particularly by those, who, devoting much time to the treatment of these deformities, have, in removing them, the best chance to know their character,—I say, the explanation of the nature of the disease explains also its origin in utero, and shows that it is useless, and, in fact, irreconcilable with physiological principles, to search for a distinct general cause like any of those brought forward by the different theories above-mentioned.

Club-foot may be produced in the fœtus by any cause that is able to excite an irregular or spasmodic action of the muscles; and if the crossing of the legs of the mother during pregnancy can affect the nervous or muscular system of the fœtus, so as to produce irregular contraction, Ambrosius Parœus is right in accusing that as the cause of club-foot; or if the want of the amniotic fluid can have that effect, Martin's theory, also, may be right, although there is no reason why a superabundance of the same fluid might not, perchance, produce the same effect. Thus the most opposite causes may eventually produce the same result; but to enumerate them is impossible, and would be useless. At how early a period of uterine existence this deformity may originate, we have had no opportunity to ascertain by experience, but have every reason to suppose that, as soon as the muscular system is far enough developed to serve as the instrument for motion, that is, as soon as the muscles are able to contract at all, that they may then contract irregularly. Little, and others, have found and dissected fœtuses of three months old with club-feet; and we have seen children born with club-feet where the contraction of the muscles must have taken place before the bones had attained their osseous consistency, for the bones were plainly bent by the contraction so that they formed a bow, the muscles acting like a bow-string. We have seen two children, with varus, where the tibia was considerably bent, from contraction of the muscles of the calf and leg, the convexity looking forward. Fig. 3, Plate I. represents another form of talipes, from contraction of the muscles in the front of the leg, showing, also, a slight curvature of the tibia, but with the convexity looking backwards. Practically, it seems of little importance how early club-foot may be developed; but if in the treatment of the deformity we meet with cases which, although they present, in appearance, nothing extraordinarily bad, yet resist treatment longer than others which appear similar — the only way in which we can account for this obstinacy is, that these club-feet must have been developed at an earlier period of fœtal life. Thus this question becomes practically important, but can only be answered *ex post facto.*

The fact that club-foot is sometimes hereditary, and often occurs in several children of the same family, may be accounted for in the same manner as that the children of one family are more subject to convulsions than those of others, from a naturally greater irritability of the nervous and muscular system.

From the large number of cases of this deformity, which, within two years, have come under our observation, we have been enabled to collect some curious facts, which we shall give as we have found them, leaving it to the reader to decide whether they are accidental, or whether if more confirmed, they might not be the means of finding and ascertaining certain laws of nature. Since September, 1837, up to the time we are writing this, the beginning of October, 1839, our advice has been asked by, or for, 167 patients with this deformity, some of whom have not submitted to treatment, being either too old, or for some other reason — but the greater number have been cured, and the rest are still under treatment. Of these 167 cases 98 were males, and 69 females; in 93 patients both feet were affected, in 41 only the right foot, and in 33 only the left foot. Of the 167 cases 125 were congenital. Of these 125 patients born with the deformity, 114 were otherwise well formed, 11 had some other congenital defect apparently independent of club-foot; in 2 the whole extremity, femur and tibia, were unnaturally short, in 1 only half the length of the other sound extremity; 1 had a hare-lip; 7 squinted;* 1 had the toes of the club-foot grown together, and 1 had an additional thumb, that is, two thumbs on the hand corresponding with the club-foot.

In one family there were 5 children thus affected, in two families 3, and in four families 2; besides I have often found that in a family where a child is born with club-foot, the other children walk parrot-toed. In one family, a child was born with club-foot, and in another child of the same family the disease was developed without any apparent cause, at the age of 6 years. In one family I found a child with two congenital club-feet, and another child of the same family with a congenital caput obstipum.

In none of all these cases could any blame be attached to the mother; there was no crossing of legs during pregnancy, no want of amniotic fluid, nor was there any case where the imagination of the mother, during pregnancy, could have wrought the evil. Besides, in none of these cases, could we find an hereditary disposition to this deformity derived from the mother or the mother's family. In 4 cases the father had been club-footed, in 3 the father's brother, in 3 a child of the father's brother had had a similar defect; in the family where the child had, at the same time, one thumb too many, the grandfather, on the father's side, had been born with the ring-finger of the same hand missing, and with one or two of the other fingers contracted, but otherwise perfect. In one family, where a child had one club-foot, another child of the same father from a first wife, had had some twist in one foot, the nature of which we could not ascertain; and in five other cases we could trace a similar affection in a more distant relation on the father's side. Thus we have, in 17 cases, been able to trace the hereditary predisposition to this deformity, more or less distinctly, to the father's side; whereas, on the other hand, we have not, in any case, been able to trace it back to the mother,* except in one case, which, however, came not under our own observation, but was kindly communicated to us by Dr. Bedford of this city, who delivered a club-footed woman, who at the same time was deformed in various parts of the body, of a child which exhibited in every respect the same deformities as the mother.

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* We remark this because squinting may be produced by the same causes which produce club-foot. Whether it may not be cured by an analogous treatment, is a question about which we intend saying a few words in another part of this paper.

From our observation and experience we are consequently led to suppose that, if there is an hereditary disposition to club-foot, it generally is communicated to the offspring from the side of the father. We are not aware whether a similar observation has been before made with regard either to this or other congenital defects; and until this fact be further confirmed by repeated observations, we abstain from reasoning upon it, and merely state what we have found.

Species.—All that we have said so far, has been said in reference to the distortions of the feet in general, although it is, in many points, most applicable to that form of distortion which occurs most frequently, and which exhibits the leading features most distinctly. We shall now enter a little more into detail, and consider the different species of club-foot separately; for accordingly as one or the other set of the muscles of the leg is contracted, the foot is drawn in a different direction, and a different form of the disease is produced.

Dr. Little has proposed the name of talipes as a generic name for all these distortions of the feet, and we believe it is, and ought to be, generally adopted.

There are four distinctly different species of talipes to be considered, viz:

1. The muscles of the calf and the adductores of the foot are

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* Sometime after this had been written and ready for the press, a gentleman asked our aid for his child which was club-footed; after the child was nearly well, he applied again to us for his little nephew, who was suffering under the same deformity; but this nephew was the child of his sister, so that, in this family, there was a case of maternal as well as of paternal inheritance.

contracted, the heel is drawn up, and the foot has made a rotatory motion inwards, analogous to pronation of the hand; the toes turn inwards, and the outer edge of the foot touches the ground, the patient walks more or less upon the outer ankle — *talipes varus.*

II. The muscles of the calf are contracted, together with the abductores of the foot, which has made a rotatory motion outwards, analogous to supination of the hand; the inner margin of the foot touches the ground, the patient walks more or less on the inner ankle — *talipes valgus.*

III. The muscles of the calf are alone contracted, the patient steps on the toes without bringing the heel to the ground — *talipes equinus.*

IV. The muscles in front of the leg are contracted, the patient steps on the heel without being able to bring the forepart of the foot to the ground.

Talipes varus, as we have mentioned before, and as from the explanation of the disease, and the mode in which it originates, might *a priori* be expected, is that species of talipes which is most frequently met with. Of the 167 patients which came under our observation, 93 had, as we have stated, both feet affected, and 74 only one foot: this gives an aggregate number of 260 feet; of these 230 were vari.

In this form, all those muscles are contracted which are naturally of a superior strength to their antagonists, viz.: the muscles of the calf, the muscles on the inner side of the leg, and those of the inner side and sole of the foot. Consequently the heel is drawn up, the foot is turned in, and the inner margin of the foot turned up and bent, so that the great toe is brought nearer the heel. All the bones of the foot are somewhat changed in their position towards each other, without, however, their respective articular surfaces ceasing to be in contact; there is no complete luxation; the ligaments which connect the bones of the foot adapt themselves to their abnormal position, and become contracted and shortened on the inner side of the foot, and stretched on the outside.

The foot touches the ground with its outer and upper part, where from the pressure of walking, a thick callus is formed; whereas the epidermis of the heel remains thin and delicate.

Frequently the muscles of the great toe take part in this irregular action, sometimes the flexor, and sometimes the extensor, and frequently both together, so that we find the first phalanx extended to a right angle with the os metatarsus pollicis, and the second phalanx bent to a right angle with the first. It is not so frequently the case that the other toes are affected, but occasionally we find them also twisted, and one lapping over the other.

Fig. 1, Plate 1, represents the highest degree of talipes varus. The drawing is taken from a boy 16 years of age, born with both feet thus distorted. A, is the heel elevated about 3 inches from the ground, B, is the callus formed by pressure where the foot rests on the ground.

Sometimes both feet are affected in the same manner, sometimes only one; when this latter is the case, we frequently find that the sound foot is not quite well formed, showing an inclination towards the disease, either by being turned in, or by being curved on the outer margin,—sometimes only the great toe of the sound foot is contracted. Frequently the sound foot, although immediately after birth it may show these slight symptoms of a varus, inclines, after walking, in the opposite direction, we mean towards valgus; that is, the foot becomes flat, the inner ankle bends down; and in two cases where the child was born with one varus, I saw a complete valgus developed in the other foot, after the child began to walk.

From the constant contraction of the muscles, and the consequent impeded functions of the limb, the nutrition of the leg is affected; the leg becoming not only much less in circumference, the muscles of the calf disappearing, in time, almost entirely; the length of the leg is also affected, it being often several inches shorter than the sound one. We must remark here, that we have never observed the diminution in size immediately after birth; both legs are then equally thick, and we believe the difference in size only begins to appear when the child begins to use the leg, whereas the difference in length is often remarkable immediately after birth; but in some instances, also, is only developed after use. The skin of a club-foot is generally cold and moist; it does not present the natural *turgor vitalis* to the touch. The bones of the leg are thinner and more slender than those of the other leg, and the arteries are said to be of a smaller diameter. The foot is much shorter than a natural foot, and the toes are generally square; that is, the great toe does not project in length farther than the other toes, and the foot when straightened, appears, therefore, short, broad, and square.

The knee-joints are generally more or less affected, and invariably become so after the patient has been walking for some time. These joints become loose, and admit of a rotary motion, and in walking bend backwards; besides, when the patient stands, both knees touch, while the feet are from 6 to 12 inches, or more, apart.

The patients of course experience much difficulty in walking, yet it is surprising how well they sometimes make out to get along with their distorted feet. Such children, however, generally commence walking later than others. It is remarkable that sometimes a slighter degree of the deformity affects the walking more than a completely developed distortion, because the bones have not yet become fixed enough in their abnormal position to afford a firm basis. The patients keep rolling about; whereas, on a completely developed varus, they walk with more ease. We have, however, never seen such a patient who could stand for one moment steady and still; there is a constant rolling, balancing, and shifting of the feet. We have not had much opportunity of dissecting such feet in adults, but whenever we have done so, we have not found the bones of the tarsus materially changed. The malleolus externus is generally smaller than it should be, and the articular surfaces of some of the tarsal bones are not quite so distinctly marked and defined.

There is a question well worthy of suggestion here, although a full discussion of it would lead us too far, viz: why the bones of the tarsus in a congenital club-foot present, after having remained for perhaps fifty, or more, years in such an unnatural position, materially the same shape as those of a well formed foot, no absorption having taken place where the abnormal pressure has acted upon them: whereas we find, for instance, after a contraction of the knee-joint, which may have lasted only a few years, the patella, from the pressure against the condyles of the femur, materially reduced in size, flattened and square, and yet the bony structure of the patella is the same as that of the tarsal bones. Is it, perhaps, the many articular surfaces covered with cartilage which each tarsal bone has, that preserve the form?

Some authors have found in varus, the tendo Achillis inserted laterally on the protuberantia calcanei, and have sought for the origin of the deformity in this circumstance; but this idea is erroneous. According to physiological principles, all the protuberantia or processes of the bones are not ready made for the insertion of certain muscles, so that a muscle might make a mistake and insert itself on a wrong place, but these processes, protuberantia and spines, are formed by the action of the muscle where it inserts itself; if therefore, in a varus the tendo Achillis is found inserted laterally, it only proves that the abnormal contraction of the mm. gastrocnemii has commenced before the protuberantia was finally developed, and that in consequence of the action of the muscles it has taken this shape.

The second form of talipes is where the abductores of the foot are contracted, together with the mm. gastrocnemii; that is, the heel is drawn up as in talipes varus, but the foot is twisted round to the opposite side, the hollow of the foot disappears, and its inner edge touches the ground. It is called talipes valgus. In this form a set of muscles, viz. the abductores, have got the better of their antagonists, although these are naturally the stronger: this accounts for the rare occurrence of this deformity. But to explain its origin we must look for a special cause of its developement. The gastrocnemii are never so strongly contracted, even in the highest degree of this species as in the case of varus, and altogether the muscular contraction is not so powerful. Stromeyer ascribes it, altogether, to an atonic state of the aponeurosis plantaris, and of the ligaments which unite the bones of the tarsus with each other, and with the tibia and fibula; and our experience so far agrees with Stromeyer's, that we have never seen a case of valgus without this relaxation; and we are inclined to believe that the contraction of the abductores is only secondary; for if a slight contraction of the gastrocnemii co-exists with this relaxation of the ligaments, the mere weight of the body is sufficient to explain the origin of a valgus; and after it is once established, the mm. abductores having free play, their contraction aggravates the evil.

Another reason for this our opinion is, that we have never seen or known a fully developed valgus to be congenital; and in one case, (already alluded to above,) which we saw developing itself almost under our own eyes, while treating a varus on the other foot of the same child, the limb exhibited the first symptoms of a varus until the child began to walk, and then adopted that of valgus.

Amongst the whole number of distorted feet which we have observed, there were only eleven valgi, and as we have neglected to take casts of them, we are not able, at this moment, to give a drawing of this species.

An approximation to this disease (without reaching that point where it might be called deformity,) is hereditary in whole families, and is called the flat-foot. Women, are cet. paribus, generally more inclined to it than men. Stromeyer observes that it is frequent amongst the Jews, and it is a well known fact that the whole negro race is inclined to it. The common and vulgar saying, that "the hollow of a negro's foot makes a hole in the ground" is sufficient proof of it.

The third form of talipes is where the muscles of the calf alone are contracted, and neither adductores nor abductores are affected. The heel is drawn up and the body rests on the point of the foot. This is called talipes equinus, from its resemblance to the foot of a horse which also steps on the point of the foot. This species is next to talipes varus of most frequent occurrence; we have to record 17 cases out of our 260.

The slighter forms of talipes equinus leave to the foot its natural shape, and the patient is only unable to bring the heel down, but the fully developed t. equinus becomes a hideous deformity; the dorsum of the foot becomes very convex; the ligamentum plantare contracts, and the patient steps wholly on the back of the foot; if the extensores of the toes are simultaneously contracted, the foot assumes the form represented in Fig. 1, Plate II; if the toes are bent, the foot rests on its dorsum. Talipes equinus is generally developed after birth, mostly after paralytic affections, the muscles of the calf alone contract, and the full developement of the malleolus internus prevents the foot from turning in. We have never seen a talipes equinus congenitus, but we have seen congenital varii by early application of splints and other instruments, changed into talipes equinus; the mechanical applications having reduced the turning of the foot inward and only left the contraction of the gastrocnemii; yet in almost every case, — at least in every case of talipes equinus which we have seen, — there is more or less inclination towards varus; that is, the foot touches more upon its outer margin than upon the inner, and the point turns in. This however arises less from muscular contraction than from the natural formation of the bones of the foot.

On the whole, talipes equinus and varus have many points of resemblance between them, although they differ in form, and the treatment of both is pretty much the same; but talipes equinus generally affects the knee-joint differently from what varus does; instead of the looseness of the knee, as in varus, we generally find in talipes equinus a contraction of the flexores of the leg, and the knee is in consequence slightly bent. It may be that this contraction of the flexores of the leg arises, in some cases, from the same cause as the contraction of the gastrocnemii, yet in a majority of cases it is an habitual contraction. The limb, from the circumstance that the point of the foot only touches the ground, is lengthened in proportion, to make up for which the knee is kept bent.

In several cases we have observed a simultaneous contraction of the adductores femoris, especially of the musculus pectineus, which produces a turning of the whole extremity inward, independent of the turning inward of the foot.

The fourth species of talipes is of very rare occurrence; and, as far as we know, Dr. Little is the first who has distinctly recorded one case, and we have observed another one: it is that distortion of the foot which represents the reverse of talipes equinus, the flexores of the foot being strongly contracted, so that the point of the foot is drawn upwards, and the tuberositas of the calcaneus, (the hindmost point of the heel,) touches the ground. In the case which we have observed in a girl, it was congenital in both feet, and so strongly developed that the dorsum of the foot was laying flat on the anterior surface of the leg. Fig. 3, Plate I. gives a view of the right foot. Dr. Little observed it in a girl of 4½ years old, in whom it was developed after birth, about the time the child began to walk.

Dr. Little, being the first who observed this singular distortion, proposes the name of talipes calcaneus for it; but although this name, in itself, is expressive of the deformity, and chosen according to the rules of nomenclature, still there is one objection against it. It is taken from that part of the foot, or that particular bone of the foot which touches the ground; a different principle from the one after which the other species of talipes are named. And to make this nomenclature consistent, and adopting the name of talipes as the generic name, we ought to call varus henceforth talipes tarsi externus; valgus, talipes tarsi internus; pes equinus, talipes phalangis; and then talipes calcaneus would not be an objectionable name, for thus, in all the four species, the part which touches the ground would furnish the name. But as the names of varus, valgus, and pes equinus, have been adopted since time immemorial, it could hardly seem proper to change them just at the time when they are coming more within the reach of art; and instead of giving up these three old names to suit one new comer, we should rather try to find another name for this, to correspond with the old ones. Thus the name of talipes equestris suggested itself to us, which, although by no means so scientific a name as talipes calcaneus, is more consistent with the already adopted nomenclature. The name talipes equinus is derived from the horse, because the foot resembles a horsefoot; talipes equestris would be derived from the rider, because the rider on horseback raises the toes in the stirrup, and pushes the heel down. Another reason for suggesting this name is, that the only child in which we saw this deformity, is the child of a former dragoon officer; and putting our theory about the paternal inheritance of talipes a little on the stretch, the child may have been afflicted with this deformity in consequence of its father having stood too much in the stirrup.

However, it may be as well not to be too scrupulous about names, and adopt that of talipes calcaneus.*

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* Sometime after this had been written and ready for the press, we received from Germany a translation of a Memoir, sur la cure radicale des pieds-bots, par H. Scoutetten, Paris, 1838, where Scoutetten records a similar case. He calls it, like Dr. Little, pied bot calcanien; but then feeling the inconsistency of the nomenclature, he abandons the name of talipes equinus, and calls that pied-bot phalangien. However, the translator of Scoutetten's Memoire, Professor Walther of Leipzig, opposes in a note, the abandoning of an old and expressive name like pes equinus, and

This species of talipes seems opposed to the pathology of the disease as we have given it above, here being a set of muscles contracted, viz: those on the front part of the leg, which are naturally so much inferior in strength to their antagonists, the gastrocnemii. But the very circumstance that this species is seldom observed, and perhaps, also, the ease with which it can be reduced, speak rather in favour of the theory. Besides, in the case which we have seen, the child, when born, was so emaciated that it was almost impossible to say which set of muscles might be the stronger.

Treatment.—When the pathology of a disease is established, and we believe we have done that satisfactorily in the disease in question, it is easy to find the therapeutical indications, which are in club-foot, to re-establish the disturbed equilibrium of the muscles, to relieve the contraction of one set, and to give the other a chance to regain its power. Our object now is to consider the best means of obtaining this end.

A surgeon will rarely be called upon to adopt a prophylactic treatment in this disease; but in families where children have already been born with this deformity, we should be more particular in guarding the mother, during pregnancy, against every thing that might possibly act unfavourably upon the fœtus; however, as we know very little about the causes of this affection, or rather as the causes may be so many and so various, we have to limit our attention, in these cases, to a general wholesome regimen. If the disease threatens to develope itself after birth, we must, of course, try to remove the cause; and we may, by the early application of proper means, prevent its full developement: the treatment would thus be that of a milder form of the disease, and could hardly be called prophylactic.

As talipes varus and t. equinus require, with some modifications, the same treatment, we shall speak of these two species together, and only mention where and when these modifications are necessary. In most cases, where a surgeon's aid is asked in

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adds that Delpech (where he does not mention) calls the deformity in question, pied de bœuf. This name, however, has nothing in its favour except that it is, like pes equinus, taken from an animal; but the ox steps like a horse on the point of the foot, the name therefore is decidedly wrong; he might much rather have called it pied de coq, because the cock steps at least on the heel.

behalf of this deformity, the remote causes of the disease have ceased to act, and we have only to do with the result. In congenital club-foot this is a matter of course, but if, after birth, the deformity originates in consequence of a convulsive fit, or a paralytic affection, or a sore on some part of the foot or leg, — all these causes may have ceased to act after producing club-foot; or, if they still exist, they may be treated and cured without their treatment and cure affecting the club-foot; hence it follows, that our treatment must be directed immediately against the deformity. It used to be a common and favourite practice to apply to the contracted side of the limb emollient oily frictions, and to the opposite side, astringents, — a course of treatment which seems quite plausible, and which we still meet with occasionally, but which we consider (at least as far as the different external applications would indicate it,) entirely useless. Frictions and manipulations of the limb may be, and sometimes are, beneficial in aiding more powerful remedies; the same may be said of local baths, vapour baths, &c. But the only remedy to be relied upon, in the cure of club-foot, is extension of the contracted muscles, gradually increased and continued until one set of muscles lose the inclination to spasmodic contraction, and their antagonists regain their activity. In cases where the contraction is so strong, or has existed such a length of time, that a moderate extension is insufficient to overcome it, we have a certain and safe remedy in the knife; we divide either the contracted muscle or its tendon, and as soon as reunion has taken place, or rather as soon as it has begun, we commence extension, which then meets with little resistance. We say, a moderate degree of extension is alone indicated, for if it exceed those limits which are dictated by prudence, and by the consideration that we are treating a living subject, and a contractile muscle that will yield to a certain point, — but on this point being exceeded, will react against the extension, — and that if this is persisted in, the whole system will sympathise with the part, and convulsions and other serious nervous symptoms will be the consequence.

Notwithstanding we have called the knife a certain and safe remedy, we ought never to forget that, although the old prejudice and fear about the wounds of tendons may have been exaggerated, it always is an important operation, and that although, of late, a large number of tendons have been divided with impunity, and without dangerous consequences, it would be a hazardous conclusion that it is no great matter if a few are divided unnecessarily. We are far from sanctioning an indiscriminate use of the knife, and if a little more patience and attention on the part of the surgeon, will render the division of a muscle or tendon unnecessary, we consider it the urgent duty of every surgeon not to yield to a fondness for operating, but to be guided solely by the result of a conscientious examination in deciding that the knife is absolutely necessary, or at least preferable. Thus, in certain cases, extension alone would cause too much pain, or might require too great a length of time to effect a cure. We have frequently been obliged to operate on children that were brought to us from distant places, where the time allowed us for a cure would have been insufficient, had mere extension been resorted to, and where we should not have operated, had the parents resided in the city. Besides, *ceteris paribus*, the operation has to be performed most frequently amongst the poor; —then the surgeon frequently cannot, and the parents, also, too often cannot or will not, bestow the necessary attention upon the patient; in such cases, the operation must be resorted to as being the quickest remedy, for it is no doubt better to cure the child by an operation, than to leave it a cripple for life.

With a little practice and experience, we are generally able to judge beforehand whether extension alone will be sufficient, or whether the knife had better be resorted to, at once, without losing time.

If the contraction yields to the extension made with the hand, if the heel can be drawn down, and the instep bent, in a word, if the foot can, without great force, be reduced to the natural shape, or nearly so, the operation can, generally, be avoided. The manipulation, however, must be made gradually and with care, for, if sudden, the child will offer a resistance which might be mistaken for spasmodic contraction, whereas, by a gradual extension the foot might probably yield. Besides, the extension must not be made with one or two fingers, for instance, with the one finger on the instep, and another under the sole of the foot, because, in this way, the pressure is concentrated upon one spot, and causes pain to the child; the proper method is to put the sole of the foot in the palm of the hand, and to clasp the fingers round the foot. We are thus particular (perhaps unnecessarily,) in mentioning this, because we frequently have seen a child's foot handled in this manner, apparently very delicately, with only the end of two fingers, the child screaming lustily all the while; and when we attempted to use the whole hand, the parents became alarmed, fearing a proportional increase of pain to their child, but were afterwards agreeably surprised when they saw that our extension was more effectual, and without giving any pain to the child.

Generally in children less than a year old, the muscular contraction will yield to the mere extension with proper instruments, although, of course, the age alone decides nothing. We have operated upon children of three months of age, and we have cured, without dividing a tendon, congenital club-feet in patients of four years of age. Besides, it makes a difference whether mechanical means have been already used, for although they may not have been efficient enough to cure the disease, still they may have operated as a check against contraction. In cases not congenital, the causes and the duration of the disease are important in deciding the question, whether to operate or not. Recent cases after paralysis, and before the deformity has reached a high degree, seldom require the knife; we have cured a lad of 15 years of age without operation, where the deformity in both feet had existed 13 years, but where various kinds of shoes had been used during most of the time, which, although the patient only walked the worse for them, still, had kept a sort of control over the contraction.

All this shows that no positive rules can be laid down as to the necessity of operating; much, after all, must be left to the judgement of the surgeon; yet he ought to bear in mind, that steady extension is a powerful remedy, which will supersede the knife in cases which, at first sight, may promise little hope. We beg to refer here to a case, which we shall relate more fully afterwards, that of a girl, four years of age, with two congenital vari. We divided the tendo Achillis in only one foot, and, in other respects, treated both feet alike, in order to ascertain the benefit to be derived from the operation.

We are desirous to see the use of the knife, in the treatment of these diseases, restricted to those cases in which it is actually necessary, not so much because we consider the wounding of a tendon such a dangerous operation as it has been considered heretofore, but because we fear that an injudicious use of the knife might bring an operation into disrepute, which, if practised with discretion, is an invaluable addition to surgery. Every prudent practitioner will, and ought to set his face against an operation that leads to a practice such as we have recently met with in a late medical journal:* "T. W. D., two months old: we divided four tendons and two ligaments in each foot; the operation was bloodless, although the greater quantity of fat rendered the sense of touch of no avail in seeking the tendons." And, in another case: "S. S., thirteen years old, born with the left foot very crooked: we divided six tendons and some ligaments." All this is said without even stating what ligaments and tendons were divided, as if it were entirely immaterial what and how much of this useless and indifferent stuff had been cut, although we are at a loss even to imagine a deformity in the foot that could possibly require such carving, especially if we consider, that we have cured the deformities represented in Fig. 1, Plate I. and Fig. 1, Plate III. which last had existed nearly thirty years, and others equally as bad, by merely dividing the tendo Achillis.

In fact, we believe, that in the great majority of cases where we feel obliged to resort to the knife, the section of the tendo Achillis alone is sufficient. The gastrocnemii are the strongest muscles, and capable of the most powerful contraction; besides, they are the chief cause of the deformity; if their contraction is overcome, the other muscles involved generally yield very readily. In young subjects, it is, to say the least, superfluous to divide more tendons. In older patients, it may occur that other muscles, besides the gastrocnemii, are not only so strongly contracted, but, from the duration of the contraction, actually so shortened, that their division may facilitate the cure. The muscles that, under such circumstances, may require the section of their tendons, are, besides the gastrocnemii, the tibialis anticus and posticus, the flexor longus, and sometimes the extensor pollicis; and in pes equinus, the peronæi. In deformities of long standing the ligamentum plantare is sometimes so shortened that time may be gained by dividing it also. We have, in many cases, divided these muscles, and, for the sake of experiment, have occasionally, in patients where both feet were equally affected, divided the tendo Achillis alone in one foot, and in the other foot, besides the Achillis, those of other contracted muscles; (see the annexed report of cases;) but the result of our experience is, that the section of the tendo Achillis is the main thing, and that almost all cases are curable by dividing this alone, and even the gain of time, from dividing more of the contracted muscles, is not very great, if, in fact, it be any at all. Yet, if in bad deformities of long standing, some of the above-mentioned muscles were very strongly contracted, and their tendons can be felt very tense and prominent under the skin, it may be advisable to divide them before commencing extension; although there would be nothing lost by dividing at first the tendo Achillis alone, and commencing extension, and if afterwards any other muscles were found to offer too great a resistance, their tendons might be divided in the course of the treatment.

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* *Vide* Dr. Walther on the Management of Club-foot, in the Eclectic Journal of Medicine, Vol. III. No. 10, August, 1839. Philadelphia.

A question here naturally suggests itself, which is by no means merely speculative, but which is of great practical interest, viz: How does the section of tendons operate?—what is the philosophy of it? A muscle is spasmodically contracted and will not yield to mere mechanical extension; we therefore divide its tendon, the separated extremities unite again, and we now find that extension can be effected. In experiments made by dividing the tendons in animals, we have observed that the intermediate substance by which the divided ends of the tendon reunite, can be elongated by extension; hence the conclusion was derived and the opinion generally adopted, that the benefit of tenotomy in contracted muscles, is founded upon the extension and elongation of this intermediate substance, the cicatrix of the tendon. We have expressed the same opinion in a paper on this subject in the American Journal of the Medical Sciences for May, 1838, and the theory is no doubt correct. The chief practical utility of tenotomy consists in this circumstance; yet we have, in the course of our practice, met with facts which we could not explain in this manner, and which have induced us to search for another mode of accounting for the result of the operation, besides the mere mechanical one which takes place in the cicatrix; and it is highly gratifying to us to find that Dr. Stromeyer's attention had been arrested by similar facts — that he has come to the same conclusion, as expressed in his work on club-foot, lately published.

In old contractions, which by their long duration have produced structural shortening of the muscle, as Dr. Little calls it, the effect of the operation already noticed, the piece of intermediate substance in the tendon divided, may be sufficient to account for the benefit derived; but in recent cases, where there is, as yet, no structural shortening, and in old cases which have remained purely spasmodic, there would be no advantage gained by this addition in length, from the stretched cicatrix; and when it is made to take place, there is no reason why the muscle, having gained in length, and therefore meeting with less resistance in its contraction, should not contract more than before; yet in these cases tenotomy meets with the most brilliant success, the more so as, after the operation, extension is hardly necessary.

All this is satisfactorily explained by the theory, that the temporary division of the muscle in its continuity between the place of its origin and of its insertion, cures the spasm of the muscle *dynamically*. In this manner, the spasmodic contraction of the sphincter ani is cured by the division of this muscle as proposed, and first successfully performed, by Boyer. In this case a circular muscle is divided, and as no extension is made after the operation, there can be no question about an intermediate substance. Perhaps we may also adduce here for the support of our opinion, those cases of spasmodic contraction of the bladder which sometimes so much resembles stone in its symptoms that good surgeons have been induced to operate for lithotomy. The diagnosis was wrong in these cases, no stone being found, yet the symptoms disappeared.

Frequently, after a rupture of the tendo Achillis, or after a transversal fracture of the patella, a lameness remains, although the reunion is perfect. In both these cases, the continuity of the muscles, between their origin and insertion, has been interrupted; these muscles were in their normal condition before the accident; no surplus of vital power, no spasmodic contraction existed. But as in this case the muscles are weakened and lameness ensues, so in spasmodic contraction, the exaggeration, so to speak, of vital power is taken away by the section of the muscle, its natural contractility being thus restored. Some of the annexed cases, particularly case IX. one of spasmodic talipes equinus, speak strongly in favour of this explanation of the dynamic effect of tenotomy.

Again, the increased growth of the muscles of the calf after the division of the tendo Achillis in club-foot, cannot be explained by the production of the intermediate substance; in a club-foot these muscles have withered, not merely in consequence of want of action, for there is action; there is even too much, for the muscles are contracted, and a patient with one club-foot has used the deformed limb perhaps as much as the sound one, and yet the muscles have withered. It is the spasm of the muscles which, by affecting the nerves and blood-vessels of the part, has impeded its nutrition; the section of the tendon relieves the spasm, and nutrition becomes vigorous again; the calf begins to increase in size, although, perhaps, the patient uses the foot, on account of a remaining tenderness, less than he did before the operation.

By this theory of the dynamic effect of tenotomy, may also be explained the necessity of dividing the same muscle twice, although the intermediate substance had already become sufficiently long, when the muscles have contracted again. Dr. Little ascribes this new contraction not to the muscle, but to the intermediate substance; to us it appears, however, much more plausible that it is the muscle which contracts again, especially, as a second division without any subsequent extension, removes the new spasm. Besides, the success which Michaelis met with in the treatment of club-foot by partial division of the tendo Achillis, (objectionable as this method may be for other reasons,) can only be satisfactorily explained in this way.

The operation itself is very simple. After the patient is placed in the most suitable and convenient position, an assistant, or the surgeon himself, with his left hand extends the heel to make the tendon more tense, so that it shall not yield before the edge of the knife. The principles to be observed in performing the operation are, to cut, not by drawing the knife, but by *pressing* *it against the fibres*,—in this way there is no danger of wounding other tissues, — to divide the tendon where it is most prominent under the skin, to separate it completely, not leaving any of its fibres undivided which might afterwards be torn by the extension; to pass the knife as closely round the tendon as possible, so as to make the internal wound not larger than is necessary, and to make the wound in the integuments as small as possible.

A good deal has been said about the shape of the knife, whether it should be straight, concave, or convex. We formerly used a concave knife, but now use in preference, a straight one; the shape of the knife is immaterial provided the blade be narrow. The one we are now in the habit of using, is in its broadest portion not quite one-twelfth of an inch. In dividing round tendons, and tendons or muscles which are so placed that it is easy to pass the knife underneath without fear of wounding other parts, it is advisable to use a straight or slightly concave knife, to introduce it under the tendon with the edge upward, and cut from within outward; whereas in cutting flat muscles, aponeuroses or ligaments, we prefer a convex knife, which we introduce under the skin, and divide the tendon by pressing the knife upon the contracted and tense fibres, cutting from without, inward. Some surgeons in dividing the tendo Achillis make two external wounds, that is to say, they suffer the point of the instrument to penetrate the skin on the opposite side of the tendon: others pretend to see a great advantage in making only a single external wound. We have operated both ways, and found no difference in them. When we used the concave knife, we generally made two wounds; but now with the straight knife, we make only one; but these wounds are so small that if a surgeon should think the operation easier and safer by bringing the point of the instrument out on the other side of the tendon, the second wound would be no objection against this method; on the contrary, we would certainly advise him to adopt it. In fact, provided the general principles already laid down are followed, the mere mechanical execution of the operation is so simple that every surgeon of moderate skill will be able to perform it.

While the instrument is passing through the fibres of the tendon, we always hear a peculiar grating sound, and, when the division is completed, a distinct jerk, from the retraction of the severed extremities, is heard and felt. Sometimes, however, the surrounding cellular tissue is so tense, and the muscle so rigid in its contraction, that the extremities of the cut tendon cannot separate so suddenly, and consequently the jerk is not perceived. We should therefore make it a rule after withdrawing the knife, always to ascertain with the finger whether the tendon has been completely divided, and if we feel some fibres remaining tense under the skin, we should introduce the point of the knife again through the same external wound, and divide these fibres. This accident may happen if the instrument is passed too closely round the tendon, so that the point enters between the fibres, those beneath the back of the knife of course remaining undivided. We have never met with any untoward accident. Once, only, in dividing the tendo Achillis in a little girl of nine years of age, we had a slight hemorrhage, and although the blood came out, at first, in a jet, it stopped almost immediately, the child losing hardly half an ounce. Scoutetten relates two cases of hemorrhage after the division of the tendo Achillis; in one case the little patient lost from eight to nine ounces of blood; he succeeded, in both cases, in stopping the bleeding by compression. Any accident that may occur has, of course, to be treated according to the general rules of surgery.

The external wounds are so small that they require no other dressing than a small piece of court-plaster; for precaution's sake, we put a small compress wet with cold water, and a loose bandage over it, and in every case in which we have operated the wounds have healed by the first intention. Immediately after the division of the tendo Achillis the patient generally feels a numbness in the limb for a short time, and after that an occasional twitching in the muscles of the calf, but the pain ceases immediately after withdrawing the knife.

We formerly used to apply a bandage similar to that employed after rupture of the tendon for the purpose of bringing the cut extremities together; but we have found even that unnecessary, because the ankle-joint is generally so stiff that the extremities cannot separate far enough to make it probable that they should not unite again. In purely spasmodic cases, however, where the contraction is very strong, and the ankle-joint flexible, so as to admit, by the descending of the heel, a greater separation of the extremities of the tendon, we still adhere to our former practice.

We now arrive at a very important question, viz. whether to begin extension immediately after the division of the tendon so as to make the cut extremities at once separate as far as possible, or whether to allow the tendon time to unite again, and then to commence stretching gradually the yet soft intermediate substance; and if the latter method be preferred, how long will it be advisable to wait before the process of reunion shall be far enough advanced to exclude the fear of the divided extremities remaining separated, or of causing inflammation?

Some of the French orthopedists have adopted and advocated the method of immediate extension; if our readers have had the patience thus far to follow our reasoning and views on the whole subject of tenotomy, they will readily perceive that we must be opposed to this proceeding; and we feel confident that the majority, nay, in fact, every prudent practitioner will agree with us, especially after having impartially considered the advantages and disadvantages of either method.

All the advantages which the advocates of immediate extension claim for their method, are the saving of time and of pain; but if we compare the result of their practice with that of others, for instance, Stromeyer's, Little's, and our own, we do not find it in their favour. We have, besides, repeatedly, after operating upon both feet in the same patient, applied the extending apparatus to one foot immediately, and to the other several days after the division, and have experienced no difference between the two feet; or, if any, the immediate extension was the more painful. In one case which we had operated upon, we were obliged, by circumstances beyond our control, to defer the application of the apparatus for three weeks after the operation, during which time the foot was left entirely to itself; and although the deformity was great, we succeeded just as well as in other cases where we had applied the apparatus much sooner. This proves the advantages of the method, which by its advocates is called an improvement of Stromeyer's, to be, at least, very problematical; and indeed this might be expected, *a priori*, for even if we allow two or three days to the tendon, for the exudation of the reuniting plastic lymph, this does not gain, in so short a time, consistency and firmness enough to offer any considerable resistance to extension. That resistance which we experience in deferring the extension a few days after the division, results mainly from the contraction of the tarsal ligaments, and is of course the same as in immediate extension. The advantages of this method become still more doubtful if the theory be correct, that tenotomy acts dynamically by relieving the spasm of the divided muscle; for according to this view, it would hardly make any difference at what period after the operation extension is commenced; and such we find to be the fact in purely spasmodic talipes.

The disadvantages and 'perils of immediate extension are, on the other hand, almost self-evident, so much so that even if a series of successful cases, where no dangerous symptoms followed that procedure were adduced in favour of the method, we should be inclined to consider them rather as so many lucky escapes, than as proofs of the safety of the method.

The dangers which we fear from this, so termed, improvement upon Stromeyer's method, and why we are opposed to it, are of a two-fold character; first, the tendon may not unite again, and thus the patient may be maimed for life. This is no vain apprehension, for it has been proved by experiment on animals, that a tendon will unite again if the extremities separate two inches from each other; but that reunion seldom takes place if the distance is greater, and never if it amounts to four inches. Although the rigidity of the tarsal ligaments in talipes seldom admits of such a wide separation; yet in recent cases, where the ligaments are not so much affected, it may occur, especially as the application of the extending apparatus by the pressure, (which in fastening it to the leg is unavoidable,) may, at the same time, act as a stimulus to convulsive contraction of the gastrocnemii.

The other danger is, that inflammation with all its consequences, as suppuration and sloughing of the tendon, may be caused by forcibly stretching the fresh wound, a danger which will also be increased by the impediment to free circulation in the limb, arising from the compression of its blood-vessels by the fastening of the apparatus.

It certainly does not require much arguing to prove that these two results may follow immediate extension; and if they do, that they are so injurious in their consequences, that even if the yet doubtful advantages of the method, the saving of time and pain, could be positively proved, (which we by no means concede,) we doubt much whether prudence could sanction it.

The period when the extension may be commenced without incurring the danger of either causing inflammation or preventing reunion of the tendon, cannot be positively fixed; the circumstances which must guide us to determine this point, are the rigidity of the contracted gastrocnemii muscles and of the tarsal ligaments, together with the progress of the healing process. The former must be ascertained before the operation, the latter by an examination of the external wound. If we find that the space between the separated extremities of the tendon is filled up with plastic lymph, which is ascertained by a slight unelastic swelling under the skin, without pain or redness, we may safely commence extension without fear of disturbing the reunion. This exudation of plastic lymph generally takes place within twenty-four hours after the operation; but in cases where the ankle-joint is very flexible, and where the extremities of the tendon have separated more widely than usual, it may be prudent to wait a day or two longer.

After having, by the division of the tendon, overcome the greatest obstacle to the reduction of the deformity, this must be effected mainly by mechanical means; for the operation itself produces hardly any immediate change in the appearance of the limb; of the value of external applications, frictions, and champooing, we have said a few words already; they are useful assistants in giving tone to the muscles, but for the alteration of the shape of the foot, the mechanical means can alone be relied upon. Various machines have been invented and used to accomplish this object; in fact almost every surgeon who has paid some attention to this branch of surgery, has contrived an instrument of his own which he thinks preferable to all others, because he is accustomed to use it. This only proves that the construction of the machine is of little importance provided it fulfils the indications of the case, which are,

1st, To bring down the heel.

2d, To bring down the inner margin of the foot; and

3d, To relieve the contraction of the inner margin of the foot.

These three indications must be gradually fulfilled with the least possible external pressure, and with as little pain to the patient as possible. It would lead us too far, and would, besides, be useless to describe the different instruments that have been and are now used, and to discuss their respective merits; the one which we think best adapted to fulfil the necessary indications, is that of Stromeyer, in which we have made some alterations, which the reader, if he will make the comparison, may perhaps agree with us in calling improvements. Fig. 1, Plate III. represents the machine as modified by us.

A, is a wooden splint slightly hollowed out to receive the calf of the leg, with a number of holes for straps to pass through, by which the leg is fastened to the splint. This terminates in the two branches BB, which are hollow, and contain each a tangent screw, by which the staples CC, are moved forward or backward upon the branches; this motion is effected by working the tangent screws which terminate in a square head, by means of a key similar to a watch-key, as seen at D: (by the contrivance of this key we prevent the unscrewing of the machine by the patient or the attendants.) In the staples CC, revolves the axis EE, of the foot-board F, and by turning either of the tangent screws, the axis of the foot-board comes in a diagonal position between the branches; by turning them both, the foot-board can be brought nearer to, or carried farther from the leg-part of the splint, so that the same instruments will fit patients of different sizes. G, is a windlass fixed upon the ends of the branches with a small cog-wheel on one side into which the spring H, catches, so that the windlass cannot turn back unless the spring is lifted by pressing on the other end. The windlass has a small hook I, upon which the cord K, is fastened, which goes through two pullies LL, on the splint, and from these through two eyes MM, on the upper part of the foot-board; — by turning the windlass the foot-board revolves upon its axis. The foot-board has a number of holes for straps to pass through, by which the foot is fastened to the board.

The main difference in our machine from that of Stromeyer is, that we move the staples in which the axis of the foot-board revolves, by the tangent screws; whereas, in Stromeyer's machine, the staples are placed upon slides which move upon the branches of the splint, and are, by means of a screw, fixed at that part of the branch where the surgeon wants it; Fig. 2, Plate III. represents this slide. *a*, is the iron slide; *b*, is the staple through which the axis goes; *c*, is the screw by which the slide is screwed fast where it is wanted. We have added this drawing, because our contrivance with the tangent screws, makes the instrument more expensive; and as the poorer classes furnish the greater number of patients for its use, cheapness may sometimes be an object, although the difference in price is not great, and the same instrument will answer for patients of different sizes; whereas it is obvious that the use of our instrument is easier for the surgeon, and much easier for the patient, because the necessary motion can be made more gradually and steadily; — by trying both, the advantages of ours will become still more evident.

Dr. Little, who uses Stromeyer's machine with the slide, has added to the foot-board an iron heel-piece with a spring on the outside, making a combination of Stromeyer's instrument and Scarpa's shoe, a very good contrivance which we have used occasionally, yet we generally prefer to use these two instruments separate.

Before proceeding any farther we will give the description of another instrument which is of great service in the treatment of club-foot, we mean Scarpa's shoe. Fig. 3, Plate III. represents this shoe for the right foot; it is made of metal covered with leather. a, is the sole of the shoe; b, the heel-piece which extends on the outside a little farther forward than on the inside; c, is a spring on the outside of the foot, but which comes inside the two leather flaps; dd, which are buckled over the foot; e, is a long spring bent outwards, which reaches up to the knee and is fastened to the leg with two girdles. In this way the spring is kept straight and bends the inner margin of the foot downwards. The heel-piece must be well padded, and have two straps to keep the heel in its place. Stromeyer has added a contrivance to the heel-piece for the purpose of bending the foot in the instep; and Dr. Little has made another for the same purpose. We use the shoe without either; if we want to bend the instep of the foot while the shoe is worn, we tie a string to the toe-end of the sole and to the upper girdle of the long spring, or use (as shown by the dotted outline, Fig. 3, Plate III.) a strap attached to the toe-end of the sole which is buckled to the girdle below the knee; by drawing these two points together, the instep is bent.

With the proper management of these two machines, and perhaps a few modifications which individual cases may require, and which the ingenuity of the surgeon will easily suggest, we do not hesitate to say that all cases of varus and pes equinus, let the deformity be ever so hideous, can be brought straight, provided there is no real anchylosis or defect in the bones themselves. It is, of course, necessary that the surgeon before performing his first operation for talipes, should be fully acquainted with the use and mode of applying the machine; yet we cannot agree with Dr. Stromeyer in advising the surgeon under such circumstances, to learn and practise its application on the foot before it is operated upon. Besides the palpable impracticability of this in many cases, it might produce a condition of the skin and tendon which would not be favourable to the necessary reunion of the wound by the first intention. We would rather advise the surgeon under such circumstances to begin with a case where the deformity is slight; and if he has his choice, to take for his first operation a pes equinus, which is far more easily cured than a varus; but if the indications of the case are well understood, the application of the machine is easy enough.

Before applying the machine, the foot and leg have to be well guarded against pressure by a bandage of thick elastic muslin; this bandage must be put on carefully without wrinkles, not too tight, and yet tight enough not to slip under the straps. This being done, the leg is placed upon the splint, so padded that it rests upon it equally in all points. In applying this we must take care that the patella be right in front, or uppermost, when the leg is in the horizontal position; this circumstance requires attention, because in varus, the knee-joint is so loose and the tibia and fibula so twisted round, that it is sometimes difficult to know which is the actual front of the leg; under these circumstances the patella is the best compass to steer by. In the beginning of the treatment it will be found difficult to keep the leg so that the patella shall remain uppermost, for after the machine has been on for a few hours, we always find the patella again on the outside; but as the foot gets straighter, the leg remains better in place. To protect the leg against the pressure from the wooden splint, we put cushions on which go all round the leg; and even thus protected, we meet occasionally with patients on whose skin the least pressure raises a blister, especially in front of the leg where the sharp edge of the tibia is only covered by skin; it is therefore better not to place the buckles of the straps upon the tibia, but rather to buckle them at the side.

After the leg is thus secured on the splint, the foot-board is placed in the same direction as the foot stands, that is, the foot-board has to be adapted to the sole of the foot, so that as much of the sole as possible comes full upon the board; to effect this, the cord has to be loosened so as to bring the foot-board to an obtuse angle with the splint, and the inside tangent screw worked so as to bring its staple, and with it the inner margin of the board nearer to the leg. After the instrument is thus adapted to the deformity, the foot is fastened to the foot-board by a number of straps, the arrangement of which, through the different holes in the board, is important and requires some practice. Stromeyer and Little fasten the heel to the board by means of a girdle above the ankle, with two straps which go through the two holes in the heel-part of the board. This girdle, however, comes exactly over the place where the tendo Achillis has been divided; and as it must be kept pretty tight, we found it inconvenient and left it off, and now fasten the heel by a strap which goes through the same two holes in the heel-piece of the board, and is buckled over the span of the foot.

To prevent swelling of the foot between the straps, it is best to place them close together. By means of these straps the sole of the foot is to be kept flat upon the board, and besides that, we must arrange them so that they will draw the point of the foot outwards. This is done by so disposing them in the different holes of the board, that those nearest to the heel make contra-extension on the outside of the tarsus, while those near the toes make extension upon the os metatarsi pollicis, drawing this towards the little toe; or, in other words, we have to make the outside of the tarsus and the inside of the os metatarsi pollicis, the two fixed points. In arranging the straps, we must be particular that the buckles do not hurt; it is therefore best to place a small pad under each buckle; and we must carefully avoid the passing of one strap over the buckle of another, because that would be sure to raise a blister. When the foot is thus strapped up, there ought to be no pain from pressure; and should the patient complain of any place where the machine or the straps hurt him, that must be relieved. The straps must be buckled tight enough to keep the foot on the board and to make it follow the motion of the board, which is now gradually brought to a right angle and square with the splint, by working the inside tangent screw and the windlass.

In the degree of extension which we thus apply, we must be governed by the pain which it causes the patient, by the tightness of the cord, and the ease with which the screw turns. But above all, we must be particular to not screw the foot-board any farther than the foot will follow its motion, and to not turn the windlass so much that the heel shall get off from the board; for if that is the case, and we push the toes still farther up, we shall bend the foot not in the instep, but between the tarsus and metatarsus, making a false joint there; besides, if we force the foot too far we shall find that it slips very soon, and we shall have to take the machine off and replace it; whereas, if we go on gradually straightening the foot a little every day, the instrument will keep in place a good while, and the steadier we proceed the sooner shall we gain our end. At any rate the patient before submitting to the cure, as well as the surgeon before undertaking it, must both make up their minds to exercise a good deal of patience and perseverance.

From time to time, the machine has to be taken off; especially if the patient complains of soreness of the skin, the foot must be examined and washed with a spirituous lotion. A circumstance which makes the skin more subject to become blistered and sore, besides the unavoidable pressure, is the profuse perspiration in which the foot is often kept during the whole treatment; it is sometimes so profuse that the mere bandaging up of the foot does not appear sufficient to us to account for it. We believe that the peculiar coldness of the skin in talipes, arises from the vessels of the skin participating in the spasmodic affection of the muscles; and that when the spasm in the muscles is relieved, the spasm of the skin is also relieved by sympathy; and hence the profuse perspiration during the treatment. We are the more inclined to account for it in this manner, as we have observed the same symptom after the operation, where no machine had yet been applied.

If we find the epidermis raised to a blister, which occurs easiest on the instep, the blister must be opened, and if the cutis beneath is not much inflamed, it is sufficient to cover the part with simple cerate, when we may put the machine on again. Generally the skin heals under the same pressure which produced the blister; but if the cutis has been more seriously affected by the pressure, and exhibits a suppurating surface, the application which we have found most effective is a solution of nitrate of silver with tincture of opium, which we apply with a compress, and generally put the machine on again, even in this case. Sometimes we find a sore of a torpid character, which remains in the same state for a long while, neither getting worse nor showing any inclination to heal, in that case, an ointment of red precipitate of mercury is the best application. If the patient loses his appetite, has a furred tongue, complains of headache, and is feverish, the machine must be taken off and the foot examined. In this case, we generally find either an abscess forming, which requires opening, or a small spot of skin that is becoming gangrenous; under these circumstances, the use of the machine must be interrupted, unless we can arrange the straps so as to favour the part affected.

The leaving off the machine causes, of course, a delay in the cure, yet this is not so much as most writers on the subject seem to apprehend. We have occasionally been obliged to leave the machine off for several weeks, but after it had been applied again for a day or two, we found that we not only had lost no ground, but that we were progressing again very fairly. We even think it sometimes advisable to let the foot alone for a short while; we have treated feet that had been doing very well for a length of time, but where at once every new attempt at extension became painful and ineffective; we have then been led to suppose that perhaps the tarsal ligaments, or the periosteum of the tarsal bones might be in an irritated condition, perhaps a little swelled; an effect that is not unlikely to be occasionally produced by the treatment. With this impression, we have taken the machine off, put a loose bandage round the foot, and left it to itself, in a quiet, horizontal position, for about a week; and wherever we have done so, under such circumstances, we have been able to proceed with the extension, after a week's intermission, much faster than before. Besides, it is sometimes a relief to the patient, and advances the cure much, to change the machine, for a while, and apply Scarpa's shoe.

A circumstance which renders the wearing of the machine, in the beginning, very painful to the patient, is the pressure of the foot-board against the sole of the foot which, on account of never having touched the ground, is extremely tender; it causes a burning sensation, which sometimes is increased to excruciating pain. Dr. Little has seen much relief from placing small air cushions under the sole; we have tried it, but found it insufficient, — the air escaped very soon from the constant pressure and heat, and the instrument became loose in less than an hour. We therefore prefer small cushions stuffed with horsehair. However the sole becomes soon accustomed to the pressure, and, after a few days, the patients do not complain any more of it.

An accident which appears at a later period of the treatment, and does not disappear so soon, and which has troubled us a good deal in some cases, is painful corns under the os metatarsi digiti minimi, which we believe are caused by a partial rotation of this bone upon its axis, by which the tuberosities on the outside of the articular extremities of this bone come under the sole of the foot, where they can be plainly felt, and render the skin over them very painful. The only thing which we have found of use in this case was, to cover that part of the sole with several layers of emplas. sapon. spread upon thick sheepskin, cutting through the whole thickness of this plaster a hole which corresponds with the corn and protects it against pressure. In time these corns disappear, the os metatarsi digiti minimi recovering, through the use of the foot, its natural position. Dr. Little mentions a similar occurrence of corns under the ball of the great toe, which he ascribes to the contraction of the extensor and flexor muscles of the great toe, which press the inferior extremity of the os metatarsi pollicis against the foot-board. We have never observed this.

The whole treatment is, of course, attended with a good deal of pain; the severest pain generally commencing about half an hour after the machine has been tightened, but not continuing long; besides this, the patients suffer at night, especially about midnight; the position in which they suffer least, is when the knees are kept bent. This is easily accounted for, if we consider that the gastrocnemii partly originate from the lower extremity of the femur, and are consequently relaxed by bending the knee. We have seen little or no benefit from opiates in alleviating the pain, and think them rather obnoxious, we therefore avoid giving them as much as possible, although we sometimes find it difficult to follow our inclination in this respect, anodynes being, in this country, a favourite family medicine, which mothers and nurses frequently administer, whenever they deem it proper, without ever consulting the physician. A symptom which sometimes worries the patient more than the actual pain, and deprives him of his night's rest, is an excessive itching: the only thing that we have found to alleviate this very troublesome symptom is, to prevent the patient from scratching, to wash the foot often with soap and water, and afterwards with strong spirituous lotions.

We have seen many cases of varus where the nail of the great toe was growing into the flesh: whether this is a coincidence merely, or is connected with the developement of the deformity, we will not discuss, for it is immaterial; but it sometimes becomes very troublesome during the treatment, because the wearing of the machine is apt to make it worse. We cannot, of course, lose time by first attempting to cure this growing in of the nail; but it requires attention, for, if neglected, it may cause a tedious delay.

The time which is requisite to reduce the deformity so that the patient can wear a shoe and begin to walk, depends upon so many different circumstances, as the degree of the deformity, the age and constitution of the patient, and many other things besides, that it is almost impossible to fix it with any degree of precision. However, we may consider from one to three months as a fair average, although we have treated feet that have withstood our orthopedic efforts much longer, some times eight months and more; and, even after the deformity is reduced, it generally requires a great deal of care and attention, and a long continued use of Scarpa's shoe, or a similar contrivance, especially in old cases of varus, before the patient is able to enjoy the full benefit of the operation. In fact, many patients with varus, after they have reached a certain age, require some kind of mechanical support for years, and, if they are left without it, the foot turns in again. In cases where both feet are deformed, the deformity is generally worse than where only one foot is affected, probably because the primary cause has acted more powerfully, and, consequently, affected both feet. In such cases, also, one foot is always much worse than the other, and often takes double the time before it gets straight. Besides, we have observed that those cases where the foot does not yield much before the operation, where the joints are rather stiff, are the most favourable, in this respect, that they have less inclination to turn back after they are once straightened; whereas, vari that can easily be straightened to a certain degree, on account of the joints being loose, require a longer time before these loose joints gain strength in their new position.

We mention this particularly, because the profession may be misled by reports of very speedy and perfect cures. For instance, Dr. Mütter of Philadelphia, performed his first operation of the kind in the latter part of June 1838, and early in 1839 he published a lecture on the subject. According to the annexed resumé, Dr. M. had operated during that time upon twenty-eight cases; of these, there were sixteen patients between the 6th and 30th year, and one between the 30th and 50th year. At the time of the publication of his lecture, Dr. M. reports twenty of these cases *perfectly cured*; one was cured within from ten days to four weeks; nine from four weeks to two months, and ten from two to four months. This report is very favourable, yet the term *perfectly cured*, ought to be well understood, for we doubt much whether all these twenty *perfectly cured* patients could walk within four months (the longest period mentioned) with any degree of ease, and without artificial support of some kind or other; and that is what we expect ourselves, and especially what our patients expect from us, before they consider themselves *perfectly cured.*[*] We wish it to be distinctly understood that, in making this remark, we do not mean to express the least doubt in Dr. M.'s perfect success, or in the correctness of his report. We merely wish to guard the profession, as well as the public, against wrong impressions. Suppose, for instance, a surgeon operates upon his first case of the kind, everything is doing as well as can be, but, although the foot may be almost straight, still the patient cannot walk, even at the expiration of *the four months*, and, if he can, only poorly, and not without some artificial support; will not the surgeon who perhaps has, as yet, no experience on the subject, but who has read such favourable reports, I say, will not the surgeon, in his modesty, provided he has any, think that he has perhaps failed in some point or other, and, still more, will not the patient be inclined to believe it? Dr. Mütter, for whose talents we entertain the highest regard, must forgive us that we have taken his report as an illustration of this point; we might have taken many others besides his, for writers on the subject seem inclined to fall into the same fault. If we can succeed in cases of long standing, success, independent of the time it may require, is so creditable to the art, (we do not mean to the individual artist, the surgeon,) but to *the art* of surgery, that all embellishment is superfluous and improper.

Cases of grown patients that admit of a perfect cure (as we understand the term,) in so short a time, are rarely met with, although we have seen them; but a great number of our patients which we have operated upon long ago, and in whom we have every reason to be satisfied with the success of the operation; we see still improving daily. In children it requires of course much less time; we have seen children walk perfectly well a week after the operation; yet even then, we find it necessary to support the ankle-joint for a considerable length of time. In children where the deformity is not very great, we generally find Scarpa's shoe, as described above, alone sufficient to effect a cure, either with or without an operation, as the case may require. In very young infants, we at first only apply a bandage, until they are a month or two old, and then use the shoe.

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[*] Only a few days ago, our fee, for an operation of this kind, was refused to us by the father of the child, although the child had been running about with a perfectly straight foot for more than six months, but we had advised the family to keep the shoe on for a while yet. The father, as we say, refused to pay our fee, because he did not consider his child cured as long as "that 'ere tackle" had to be worn.

We have met with cases of varus that had been cured for some time, and the patients had been doing well, when a new contraction took place. Here the patients had either been neglected, the shoes having been left off too soon, or they had suffered from another disease which probably caused this new contraction, or perhaps the original cause of the deformity was not yet quite removed, — in short, a relapse took place. We believe we have mentioned already that Little and Stromeyer ascribe this to a contraction of the intermediate substance of the tendon, but that we are disposed to regard it as a new contraction of the muscles, and the success of our treatment bears us out in our opinion. In these cases we do not hesitate to divide the tendo Achillis the second time, and after this, we have rarely found it necessary to use any extending apparatus, the mere division of the tendon being generally sufficient to relieve this new spasm.

Guerin recommends, instead of the extending apparatus, the application of a mould of plaster of Paris over the deformed foot. We have tried this, but found it exceedingly troublesome, perhaps because we were not sufficiently skilful in applying it, as it requires some practice; but we have other objections to it; for instance, if the foot becomes painful, we cannot relieve it otherwise than by breaking the mould — an extending apparatus we can loosen a little; besides, we felt all the time uneasy because we could not examine the foot. In bad deformities we believe it could not answer at all, and milder cases we can cure much more easily with machines. We therefore have not tried it again. Guerin applies it in the following manner: he first greases the foot and puts on a flannel bandage, suspends it thus in a tub, and draws it with straps into the natural position; he then pours the liquid plaster of Paris round the foot, the straps being kept tight till the plaster gets hard; the foot is then taken out of the tub, and the plaster of Paris scraped off with a knife until the mould remains only one quarter of an inch thick. This remains on for about a week, when he breaks it off and puts on a new mould.

We have only a few words to add in relation to the treatment of the two other species of talipes, viz. t. valgus, and t. calcaneus.

The same principles must be observed here, both as to the division of tendons, as also the application of machines. In all cases of valgus which we have treated, we were able to remedy the deformity with a shoe constructed similarly to that of Scarpa, only with this difference — that the springs were inside instead of outside; or if the patients found it awkward in walking, to have the long spring, which goes up the leg, inside, we had it placed outside, but bent in the opposite direction. The springs, especially in young subjects, have to be very slight, because it requires but little force to keep the foot straight; and if they are too strong they turn the foot in, and make the patient walk on its outside. If tendons require to be divided in valgus, these will be the tendo Achillis, and perhaps the mm. peronæi. Stromeyer recommends in young subjects where valgus is developing itself, besides spirituous lotions of the foot, general tonic medicines, and in the worst cases, where the aponeurosis plantaris is much relaxed, vesication along the inner side of the foot, which is said to excite the relaxed ligaments to contraction: we have no experience on this subject, having never tried vesication.

As we have only seen one case of talipes calcaneus, we refer the reader, for the treatment, to the report of the case, and will only mention here that we succeeded in this case, by merely bandaging the foot. Dr. Little also succeeded in the case which he treated, by mere mechanical means. Should an old and severe case of this form not yield to these means, the anterior muscles of the leg, especially the m. tibialis anticus, would have to be divided.

The eminent success which has followed tenotomy in the cure of club-foot, has of course induced surgeons to carry out the same principles and the same operation in the treatment of analogous contractions and distortions; and we may almost say, that there is hardly a joint in the human body for which, if contracted, tenotomy or myotomy has not been performed within the last few years; no doubt many muscles and tendons have been unnecessarily divided and without success, and perhaps many more will be; yet it is certain that a large number of contractions have been relieved which, hitherto, had been considered incurable. But the question about tenotomy and myotomy is not yet settled, and the operation will share the fate of almost every new remedy or new invention. If it is successful in some instances, it is very apt to be carried too far, and fall into disrepute from having been overrated: thus it will be with this operation; its merits will be overrated, and then again undervalued, until experience shall have pointed out and established its due limits; but until then every new case, whether successful or not, ought to be communicated without flourish or embellishment.

In contractions of the lower extremities the result of the operation will be most favourable, especially in contractions of the foot and knee-joint. We have performed myotomy for a contraction of the hip-joint, by dividing the musculus pectineus, and the contraction was materially relieved. Yet the construction and deep position of the joint, the great mass of fleshy muscles which surround it, together with the difficulty of applying mechanical apparatus, are circumstances which we believe will make the hip-joint not as favourable a field for myotomy as the foot and knee-joint.

Contractions of the upper extremity no doubt can be, and have been materially relieved and benefited by this operation; yet the difficulty in this case is, that the arm and hand cannot so easily be supported by instruments after the operation, because they prevent the use of the extremity, which is not so much the case in the leg. The patient can walk with a machine that supports the ankle or knee-joint, whereas, notwithstanding ours is the age for mechanical ingenuity, it will be difficult to contrive such an instrument for the hand and fingers. Besides, the motions of the arm and hand are so much more intricate, and consequently more difficult to restore than those of the leg and foot. These circumstances alone will be the main causes why this operation will never prove as successful in the upper extremity as in the lower, although we have performed it and seen great relief from it in contractions of the elbow-joint where we divided the biceps, and of the wrist and fingers where we divided the flexores.

The division of the m. sterno-cleido-mastoideus for caput obstipum is perhaps the oldest orthopedic operation, and is generally successful; although it had never become obsolete, yet it has again lately received a new impulse. Stromeyer, some years ago, divided a portion of the m. cucullaris with success. But to perform myotomy upon the muscles of the back in cur-

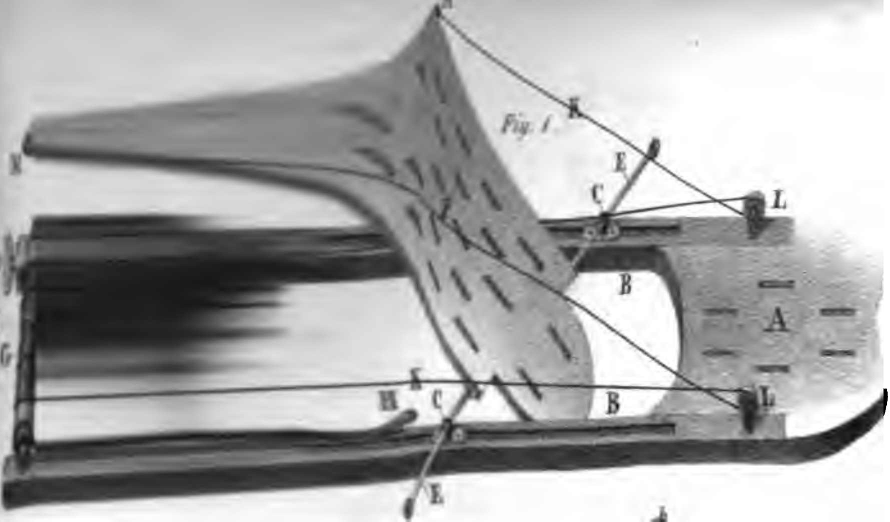


Fig. 1

Fig. 2

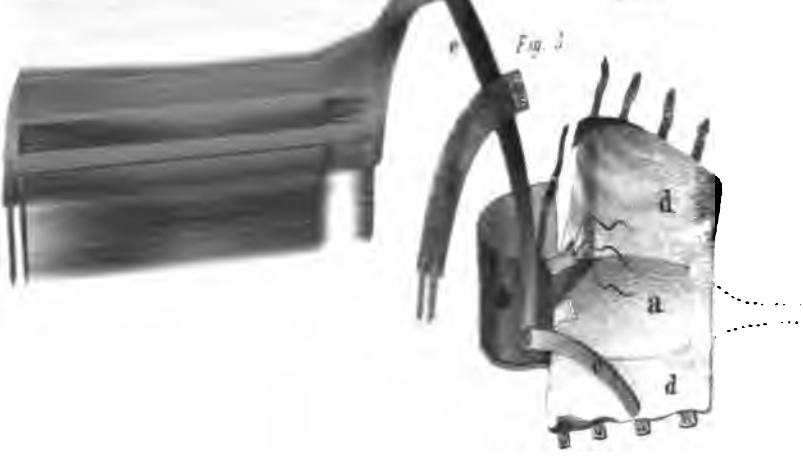
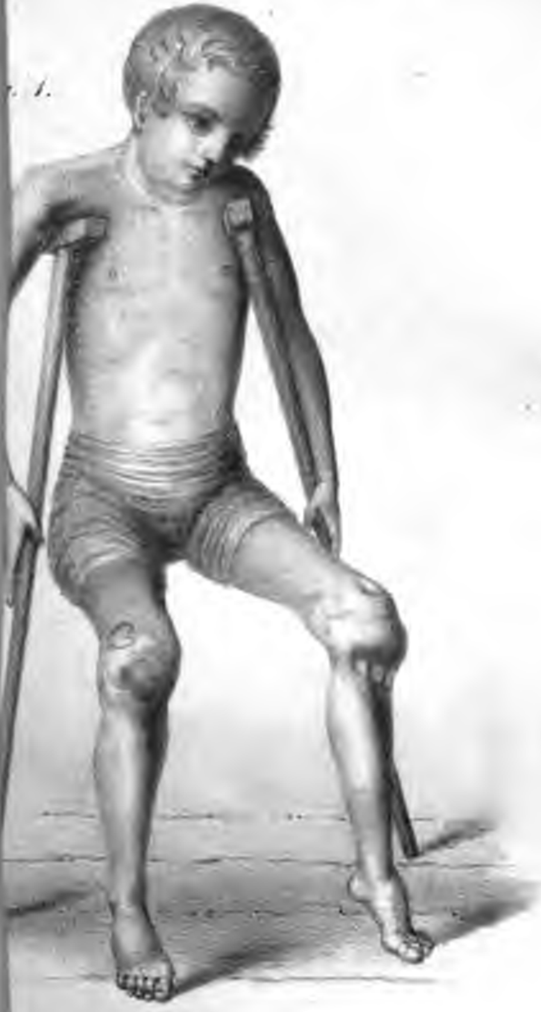


Fig. 3

1.



vature of the spine, as lately proposed and executed by Guerin in Paris, who strongly recommends it, is, we fear, carrying the thing too far; and although we are, in general, a warm advocate of tenotomy, as the list of muscles which we have divided will prove, yet we confess a considerable degree of skepticism in relation to this point. We will not, however, now discuss this question, as we have little to say in its favour, and the reasons against it are so obvious that we suppose our readers will willingly dispense with an enumeration of them.

Squinting, which arises from a spasmodic action of the muscles of the eye, could no doubt be cured by a division of those muscles, if the slight inconvenience of the disease could justify such an operation; yet if squinting existed to such a degree as to interfere materially with the functions of the organ, if the eye were drawn so much to one side that the pupil was covered, we think the attempt might be made. Stromeyer makes a similar suggestion.

Perhaps myotomy might even be useful in trismus. At least in other desperate diseases where we cannot get at the *prima causa* of the evil, we try to relieve the most predominant symptoms; why not in trismus, if everything else fails, try to relieve the spasm of the masticator muscles? We know that in other diseases the relieving of a principal symptom, remote as it may be from the seat of the disease, reacts sometimes favourably *per reflex*, upon the central organs; may not the relief of the spasm of the masticator muscles in trismus, produce a beneficial effect upon the central organs of the nervous system? Although we expect that many of our readers may, perhaps, smile at this idea, yet, in a desperate case of trismus, where everything else has failed, as it generally does, and where therefore nothing can be lost, we should deem ourselves justified in dividing the mm. temporalis and masseter.

Fig. 1.

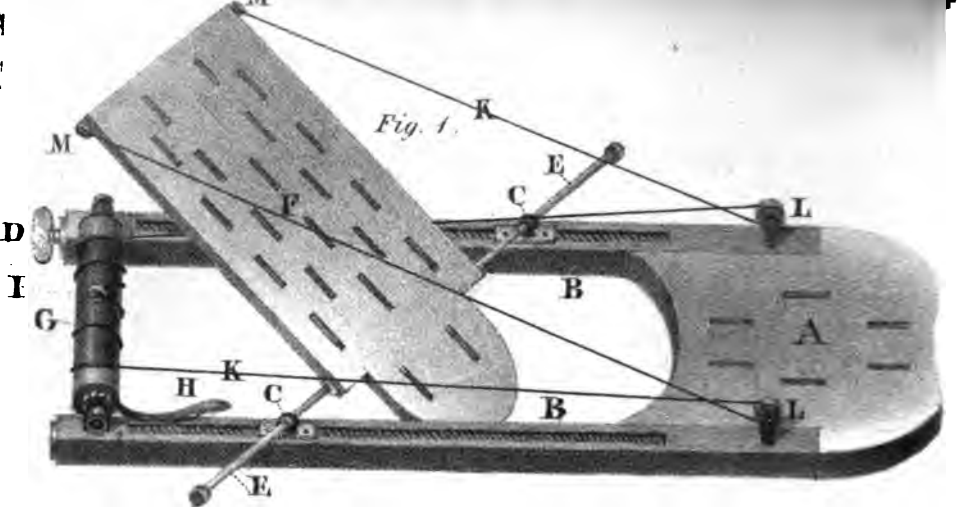


Fig. 2.

Fig. 3.

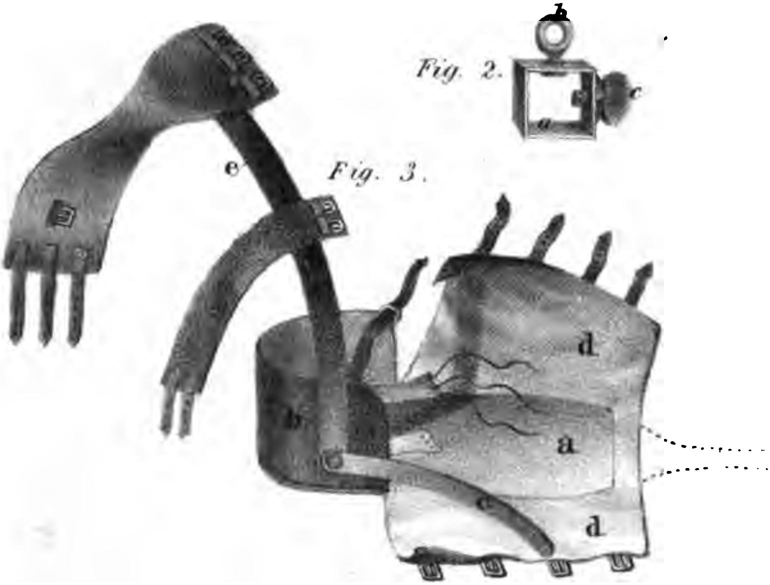
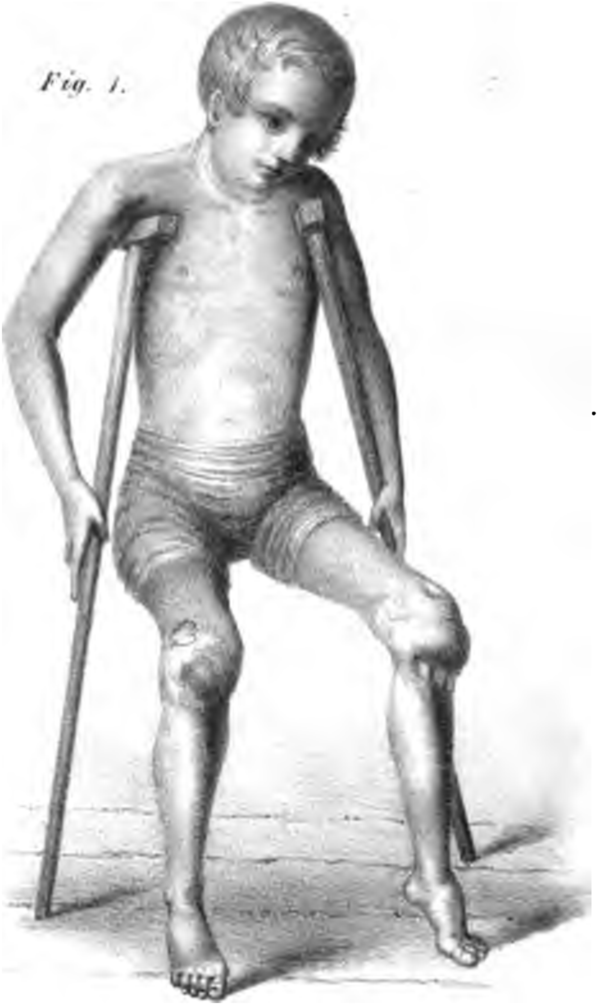


Fig. 1.



CASE I.*— *Congenital T. Varus of the Left Side; patient* 15 *Years old. Division of the Tendo Achillis.*

WILLIAM N. Q. of this city, 15 years old, was born with his left foot distorted. It presents now the highest degree of varus; the heel is drawn up about two inches, and the foot twisted round, so that the upper and outer part near the malleolus externus touches the ground, and consequently, a thick callus has formed there. The inner margin of the foot is much contracted, forming nearly a right angle, and when the boy stands with both his legs together, the toes of the club-foot are behind and above the inner ankle of the right sound foot. The affected foot possesses very little suppleness, so that a superficial examination might have led to the idea that there was a real anchylosis of the joints in this unnatural position. This circumstance we considered at the time as unfavourable, but experience has since taught us that, although such cases may in the beginning offer more resistance to the treatment, yet they generally result more favourably in the end, than those where the joints are loose.

September 8th, 1837.—We divided the tendo Achillis with a curved bistoury,† making two wounds in the skin. We then applied, for 48 hours, a bandage calculated to keep the extremities of the tendon together, a precaution which we are now convinced was unnecessary; the stiffness of the foot being sufficient to prevent too great a separation of the tendon. We then applied the extending apparatus; but on the fifth day after the operation, the patient, whom we placed in a comfortable boarding house, finding it tedious and lonesome, resolved to take the machine off, and walked home the distance of about a mile, where he remained for two days before we could find him. He then told us that he had experienced but little difficulty in walking home, and that little seemed to have arisen more from the partial displacement of the bones, caused already by the extension, than from the division of the tendo Achillis. Certainly an interesting experiment which the boy unconsciously made of the speedy re-union of the divided tendon. Would the boy have succeeded as well had we not put on the uniting bandage, but commenced the extension immediately after the operation? We should be glad afterwards, provided the result was as favourable, if another of our patients would, on his own responsibility, make that experiment — a wish more professional than christian.

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* It would far exceed the limits which time and other circumstances impose upon us, to notice, even briefly, all the cases of club-foot and analogous distortions which we have treated—besides the sameness of a great many of them would tire the reader. We shall therefore only select a few which present peculiar points of interest. Of the three first cases a more detailed account has already been given in the Am. Jour. of the Med. Sciences for May, 1838: we refer to them again because we have had an opportunity of examining the feet, and of witnessing the improvement that has taken place, more than two years after the operation.

† We have given (Plate III.) a drawing of the three different knives which we use for the division of tendons and muscles. I. is the concave knife which we formerly used for the division of the tendo Achillis, and which we still use in many cases where we wish to divide tendons and muscles by cutting from within, outward. II. is the convex knife for dividing muscles or aponeuroses by cutting from without, inward. III. is the narrow, straight knife which we now use in most of those cases where we formerly operated with No. 1.

The boy expressed the determination to remain where he was, with his mother in a damp cellar, and, although we did not much like the locality, yet we were obliged to yield, because, at that time, we were not desirous of another experiment; so we applied the machine again, and kept up the extension steadily, and six weeks after the operation the boy began to walk, poorly, indeed, at first, but with the foot perfectly straight. An œdematous swelling, however, which appeared, obliged us to wait a fortnight before we could put on a shoe. We kept the foot during that time in a horizontal position without any machine, but merely with a tight bandage on. After the œdema had sufficiently disappeared, we put on a common laced boot with straps inside, to secure the foot, and with a supporting spring outside, along the leg, which was worn for about six weeks, and as, after that time, there was no longer need of artificial support, the boy has since worn a common low quartered shoe. A slight œdematous swelling remained for a long time, but the walking improved daily. The boy is now a sail-maker, and has occasionally called on us to borrow the cast of his own foot to convince his friends that he has had a club-foot. We saw him a few weeks ago, when we exhibited him to the New-York Medical and Surgical Society. He walks perfectly well; so well that only an acute observer would notice a slight favouring of the foot when the boy's attention is called to it. He has nothing left of the awkward gait, the swinging of the arms, and the rolling motion of the upper part of the body, which club-footed people so often retain after they are cured. He can walk any distance, and knows no difference between his two feet. The calf of the leg has grown considerably, although it is not as large as that of the other leg, and we doubt whether it ever will be; besides, the appearance of the calf is different from what is natural: the bellies of the muscles are, for their size, more marked and higher up. The shape of the foot is perfect, and the boy has a free and easy control over all the joints; but, compared with the other foot, it is much smaller in all its dimensions, the difference in length being nearly an inch. Of the two, however, it is decidedly the handsomest; the sound foot being large and flat, approaching to valgus, as we generally find to be the case. A slight swelling still remains on the back part of the ankle-joint of the foot operated upon, apparently a plastic deposit which we ascribe either to the damp cellar in which the boy lived during his cure, or to his experiment in early walking; for, in other cases, we have not seen it remain so long after the operation.

Case II. — *Congenital T. Varus** *on both Sides; patient* 15 *Years old. Division of the Tendo Achillis.*

B. H. past 15 years of age, was born with two club feet, being one of five children in the same family with this deformity. Both the feet were deformed alike, and the drawing of the foot (F. 1, P. I,) will render unnecessary any further description of the deformity: we will only add that the feet were easily flexible to a certain extent, and that the knee-joints were very loose.

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* Fig. 1 Plate I. gives a front view of the right foot before the operation: Fig. 2 of the same after the operation.

On the 27th of Sept., 1837, we divided the tendo Achillis of both feet, applied the extending apparatus 48 hours after the operation, and followed the same course of treatment as in the preceding case, and, in about ten weeks after the operation, the boy began to walk. Fig. 2, P. II, represents the foot after the operation, (the drawing is from a cast which was taken about four months after the operation,) and shows that, so far as the shape of the foot is concerned, the cure is perfect; yet there was a looseness in the joints of the tarsal bones which required, for nearly a year, artificial snpport by means of Scarpa's shoe; for if the bare foot was lifted from the ground, the toes would turn in, the ligaments on the outside of the foot not having sufficient tone to keep them straight. The boy has now been walking for more than a year with common shoes, and as long as the shoes are new, and the boy pays attention to his motions, he walks well; but he is in a business where he has a great deal of walking, and if his feet get tired, or if he walks very fast, his feet still turn in. Besides, he has to change his shoes often, for if he does not, the feet will soon lean over to the outside. The knee-joints have gained strength, and the muscles of the calf have grown; but he has not yet entirely got over his old habit of swinging the arms and rolling the upper part of his body in walking. He is still improving, but we doubt whether he will ever recover so completely as the subject of Case I.; especially as he is so well satisfied with the result as it is, that he will not submit to the slight inconvenience of wearing an outside spring attached to common boots, nor does he pay that degree of attention to his manner of walking which one would suppose he would do.

We have related these two cases again for the purpose of comparing the result, and we have added the drawing of a foot of case II., after the operation, to show that the deformity is removed, but that, before we should speak of a *perfect cure*, there are, sometimes, difficulties to overcome even after the shape has been restored.

Case III. — *Congenital T. Varus on both sides; patient 7 years old. Division of the Tendo Achillis; immediate extension on the foot.*

In June, 1838, I was called to see Miss A., 7 years old, born with both feet distorted. Various things had been tried during her first year, but without doing much good, for both feet presented the usual form of fully developed talipes varus. As the left heel was drawn up more than the right, we determined to try the effect of immediate extension in this case. On the 23d of June, we divided both tendines Achillis with an exceedingly narrow bistoury, making only one external wound and that as small as possible. On the left foot, where we took particular pains to make it small, having immediate extension in view, the skin contracted as soon as the instrument was withdrawn, leaving only a small bloody spot as from the pricking of a pin. We put a cold compress over the wound, and applied to the left foot the extending apparatus immediately after the operation, and tightened it as much as we could have done under ordinary circumstances. On the right foot, we put a loose bandage and kept it on for three days before we applied the extending apparatus. Both feet were then treated as much alike as possible. The patient complained for the first three weeks of pain in the wound of the left foot, whenever extension was made; she never did so with the right foot, where however as powerful extension was never made, the muscles being less contracted in this foot. The result of the treatment was as we expected; the right foot was straight in about four weeks, whereas the left required more than three months. This respective difference is what we anticipated from the difference in the two feet; but as far as we could judge, the immediate extension as applied to the left foot had nothing to do with the result.

This case, and several others where the difference between the two feet was not so great, and where we made the same experiment, with a similar result, do not speak in favour of immediate extension, unless the advocates of this method say that these cases might have taken double the time without it. But we have seen nothing in its favour, although we must also say, that we have not experienced any bad consequences from its use. The pain which was in this case felt in the left foot at the place of the operation, was probably caused by an accidental division of some small nerve; we have noticed this symptom repeatedly, it generally ceases gradually, but there often remains for a while, a disagreeable sensation when the skin is gently touched.

CASE IV. — *Congenital T. Varus in both feet; patient 4 years old. Division of the Tendo Achillis in one foot; the other cured without an operation.*

IN September, 1838, Mr. B. applied to us in behalf of his daughter, 4 years old, born with both feet deformed. The family had previously tried some kind of shoes, but had given them up entirely, as repeated attempts of the kind had every time brought on a convulsive fit. The feet presented a mild form of varus, with the heel drawn up, and the foot turned in; yet the soles of the feet were not sufficiently strongly contracted to make the outside of the tarsus a firm basis for supporting the body; consequently the child walked much worse than she would have done had the deformity reached a higher degree. In walking she kept constantly rolling from one side to the other, and fell down very often. The appearance of both feet was alike, but the contraction in the right foot was far less powerful than in the left. As some medical men of this city, in a conversation which we had with them on the subject a few days before, had doubted the advantage of tenotomy previous to extension, ascribing the success to the extension alone, we thought this a fit case for an experiment on the subject: we therefore divided the tendo Achillis only in the left foot, where the contraction was strongest, and two days after applied the extending apparatus to both feet, and then treated them alike. The left foot which had been the worst, but in which the tendon had been cut, became straight within 3 to 4 weeks, whereas the right required the use of the machine for nearly 8 weeks and the child suffered considerably more pain from this foot, than from the other in which the tendon had been divided. Both feet however have recovered perfectly, and if there is a difference now between the two, the right one is rather the best; the left turning in slightly, when the child walks fast. Scarpa's shoe was worn only for a few weeks in this case, for the parents were so well satisfied with the result that they would not listen to a longer continuance of any thing of the kind. We witnessed no nervous symptoms, as convulsions during the treatment.

CASE V.— *T. Equinus acquisitus;* (Fig. 1, 2, 3, Plate II.); *patient* 29 *years old. Division of the Tendo Achillis; division of the flexores genu, of the m. pectineus, and of several muscles of the arm and hand in the same subject.*

MR. J. 29 years old, had when a child of 4 years, a fall on the back of his head; he was taken up senseless, and after he recovered, the left side of his body, that is the arm and leg, were paralyzed. This is about the substance of the early history of his case. He still recollects when he had a tolerably free use of his left arm and leg, but that both have been growing worse until they have reached the degree which we are going to describe. He applied to us, less with the idea that his case would admit of any curative attempt, than for the purpose of having us suggest some *mechanical* contrivance for his foot to make him walk with a little more ease, as he found the difficulty in walking daily increasing. The boot which he then used (if a contrivance to cover a foot as heavy as leather and iron can make it deserves that name) had become an impediment by its weight, and yet without it, he could not walk at all. The left foot presented the highest degree of talipes equinus. The two views of the foot in Plate II., (fig. 1 the front view, fig. 2, the side view,) will give the reader a better idea of the deformity than we could by a mere description; we have only to add that all the bones of the foot, those of the toes not excepted, were almost immoveable in this position, and that the patient had no control whatever over any joint of the foot. He touched the ground with the superficies plantaris of the toes, but, in addition, the weight of the body was supported by two straps as indicated by the direction of the two arrows (fig. 2, Pl. II.), one of which passed under the convexity of the span, and the other under the projection of the heel; both these straps being attached to iron splints reaching up the leg. An attempt to walk without this artificial support, was difficult and painful, and the foot would then bend entirely over, so that, besides the toes, the dorsum of the foot would touch the ground.

The flexores of the knee were strongly contracted, so that the patient could not straighten the leg much beyond a right angle: by force it could be straightened a little farther. Besides the adductores femoris were contracted and could be felt very tense under the skin. In consequence of this contraction the whole extremity was turned in—turned upon its longitudinal axis. The whole leg was much less in size than the sound one. The difference in length however, as far as a measurement could be made, did not amount to more than one inch and a half.

The left arm was affected in a similar way. It was strongly bent at the elbow; the hand was bent to a right angle with the fore-arm. The fingers bent, and the thumb in strong adduction. It was remarkable in the deformity of the hand, that a singular relation existed between the flexion of the wrist and of the fingers. The flexores of the carpus would contract more strongly if an attempt was made to straighten simultaneously the fingers, while they would yield a little when the fingers were kept in their utmost flexion, and thus *vice versa*.

After a consultation which we had on the subject with the patient's brother, one of the most eminent physicians of this city, the patient consented to submit to any course of treatment from which he might expect a chance of relief. We had an instrument constructed for this case similar to the one represented in Fig. 1, Pl. III.; but with a view to the curvature of the knee we had a piece added to the leg-splint which extended above the knee, with a joint whose angle could be regulated by a screw similar to that marked f g, Fig. 2, Plate IV., making this machine a combination of the two represented in Fig. 1, Plate III., and Fig. 2, Plate IV.

There were so many parts *contracted* in the foot, that had we begun at once with dividing every thing that appeared contracted, we should have hardly known where to stop; we therefore determined to divide at first the tendo Achillis alone, and try what would then yield, and to divide the rest in the course of the treatment. The result however proved that the division of the tendo Achillis alone was sufficient to reduce the deformity. This tendon we divided on the 8th of August, 1838, and 48 hours after, put the foot and leg in the machine. The patient suffered a good deal of pain, but he complained most of convulsive contractions of the muscles of the leg which increased the pain and interfered more with his nights' rest, than the actual pain itself.

As the simultaneous extension of the knee appeared to make the patient most uneasy, and as it, besides, could not be made very efficient, we resolved to give it up for the time, and first remedy the deformity of the foot. We therefore detached that part of the instrument which we had added for the extension of the knee, making the instrument again exactly like our ordinary apparatus for T. varus and equinus, and to our great satisfaction we succeeded, in a few weeks, in restoring the shape of the foot without the necessity of dividing any more tendons; the great convexity of the dorsum pedis and the concavity of the sole disappeared, and the contraction of the extensores digitorum yielded. But in attempting to bend the instep we met with a serious difficulty; it was not the contraction of the gastrocnemii, for they seemed ready enough to yield, but in trying forcibly to bend the foot we found that the posterior part of the superior articular surface of the astragalus, instead of slipping under the tibia between the two malleoli, stuck against the anterior edge of the articular surface of the tibia, pushing tibia and fibula back, and making a large projection in front, so that after we had persevered a while in the attempt, the ankle-joint assumed the appearance of a real luxatio of the foot forward. Under these circumstances it became evident that we had to adopt a different mode of proceeding, we therefore added again to the machine the upper part of the splint, which had been intended for the extension of the knee, but had been afterwards taken off, fixed it at a right angle under the femur for the purpose of making there an efficient contra-extension, and then, by working both tangent screws of our machine, we made extension upon the whole foot, bringing at the same time, the foot to a right angle with the leg. In this manner we gradually succeeded in getting the astragalus under the tibia, between the two malleoli.*

Four months after the operation we took a cast of the foot from which the drawing of Fig. 3, Plate II. is taken, which is in every particular a very well shaped foot, and shows sufficiently that the deformity was remedied. Notwithstanding, we thought it best to keep the foot for a while yet in the machine, but to make the most of the time, and as the patient could not endure a continued extension of the knee, we made him at different times during the day, lay flat on his back, and suspended the leg with the instrument horizontally by a rope from the ceiling, which was fastened to the axis of the foot-board. Thus the weight of the leg and of the instrument were brought into action to overcome the contraction in the knee joint; besides, we made the patient thus move the whole extremity in the hip joint, to make the motion of that joint more free. Simple and easy, as this contrivance appears at first sight, it acted so powerfully that the patient could not bear it longer than half an hour at a time. The motion in both joints had become much more free, yet the contraction of the flexores of the leg, as well as of the adductores femoris had not yielded entirely, and the patient had to walk with a high-heeled boot; for, the foot could only be brought into a right angle with the leg, and the curvature in the knee prevented the heel from touching the ground. We therefore divided, on the 13th of February, 1839, the tendons of the m. biceps femoris, of the m. semimembranosus and the m. semitendinosus, and, besides, some fibres of the fascia in two different places, which were also strongly contracted. We did not apply any extending apparatus to the knee; and when the patient got up two days after the operation, the knee could with little force be perfectly straightened. The high-heeled boot was, therefore, changed for one with a flat sole, and the heel came down to the ground. The patient walked much easier, but as the whole extremity turned in, and the adductores femoris could be felt strongly contracted under the skin, we divided, on the 26th of February, 1839, the musculus pectineus.† This made the motion in the hip joint much easier, the patient could turn the leg out better, and he improved daily in walking. He wore a common boot with a supporting splint on the outside, and although, as may easily be suspected, if we consider the degree and long standing of the deformity, the patient limped still a good deal, we anticipated from time and exercise a further improvement in walking.

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* It may be proper to remark here, that in luxations of long standing, especially of the humerus into the axilla, where sometimes a rigid muscular contraction is the main obstacle to the reduction of the bone into its socket, great advantage might undoubtedly be derived from the division of these muscles. We recollect ourselves to have seen in a hospital some years ago, an attempt to reduce an old luxatio humeri given up, from fear of tearing the muscles, so strong was the contraction. No doubt by dividing in that case the contracted fibres of the m. m. pectoralis and latissimus dorsi, the patient might have had the use of his arm restored.

† In dividing muscles it is generally unnecessary to divide them entirely. The contraction is usually strongest in the superficial layers, and along the edge of the muscle, and especially, where the muscular fibres are intermixed with tendinous fibres. If the contracted portion is cut, the rest of the muscle may be spared. For this reason we prefer, in dividing muscles, to cut from without inwards, by pressing the edge of a convex knife against the muscle. With some practice and experience the surgeon will soon be enabled to feel, by the resistance which the contracted fibres offer to the edge of the knife, how much to cut.

The patient himself was so much encouraged by the result of our operations, that he now wished us to do something for his arm and hand, and although we were not very sanguine on the subject, he was willing to submit to any thing and take his chance. We commenced at the elbow, which was bent into an acute angle, and divided, on the 14th of March, 1839, the tendon of the musculus biceps brachii, and that part of the fascia brachii which originates from that tendon, and which was also very tense. We did not apply any extending apparatus to the arm, because that would have made the walking more awkward and difficult to the patient, but merely recommended the free use of the arm, which could now be straightened much more than before the division of the flexor. We then divided successively, first, the tendon of the m. palmaris longus, which was very prominent, and seemed to keep the aponeurosis palmaris contracted, then the tendon of the m. flexor carpi radialis and flexor carpi ulnaris; and last, on the 26th of March, 1839, the musculus flexor digitorum sublimis. The effect of these operations was very striking, the hand and fingers could now be easily straightened, but the patient had yet no power to keep them so.

The patient had become so accustomed to these subcutaneous operations, that he did not mind them much, and on the same day that we had divided the last muscle, he had exposed himself in stormy weather and took a violent cold. The next day he had a chill and was feverish, his forearm was very painful and swelled, exhibiting an erysipelatous inflammation, the centre of which was the small external wound from the division of the flexor digitorum sublimis. There was pain along the nerves and vessels of the arm up to the axilla, and we apprehended its termination in extensive suppuration under the fascia, with all its consequences, for it was evident that the inflammation would not terminate without an abscess. A strong saline mixture was prescribed, and warm fomentations with solution of acetate of lead applied to the arm. To our great satisfaction the inflammation became concentrated round the wound and lost its erysipelatous character, and in a few days a small abscess had formed, which was opened by introducing a lancet into the old wound. About an ounce of matter was discharged, and the abscess closed in a few days, without further consequences.

After we and our patient had thus made what we considered a very lucky escape from a perhaps tedious suppuration under the fascia, which we dreaded the more in a limb that had been paralyzed, we put a straight splint on the volar surface of the forearm, extending into the palm of the hand, which was thus easily kept straight, and sent the patient into the country to expect there, from time and exercise, the farther restoration of his limbs.

We have lately seen Mr. J. again, about fifteen months after the division of the tendo Achillis, but we are sorry to say, that his walking has not improved quite as much as the favourable alteration in the shape of the foot might have led us to anticipate. Upon a close examination of the limb, we found the contraction of the knee to be the cause of it. The muscular contraction of the flexores had been so far overcome, that the leg could easily be straightened, but the extensores had not sufficient power to keep it so; besides the ligaments of the knee joint were too rigid to admit of entire straightening by the mere power of volition. Thus the patient had been walking all the while with his knee slightly bent, and consequently, the heel had not touched the ground. To ascertain more positively whether this was the actual cause of the slow improvement which our patient had made in walking, we fastened a straight hollow splint to the back of the leg, by which we straightened the knee perfectly, and although it obliged the patient to walk with a stiff knee, he walked immediately a great deal better. We therefore advised the continued use of such a splint until the knee could be kept straight without artificial support, and we feel confident that the patient will be materially benefited by it, and walk quite well in the course of a few months. The improvement in the hand and arm was comparatively greater, and much more than we had anticipated. The patient had kept the straight splint on the volar aspect of the arm, and he was able to use his hand much more and better than before; being able to hold it straight for some time without the splint, by the mere exertion of the extensores manus, which muscles were gradually gaining strength.

We have given here one of the worst cases of talipes equinus that perhaps ever has been operated upon with any kind of success. It is not so much the high degree of the deformity of the foot itself that makes this case so bad, but rather the simultaneous affection of the whole extremity. For we have operated upon other cases of T. equinus where the foot resembled very much the one in this case, but where the leg was not affected, and where soon, after the form of the foot was restored, the patient walked very well. We abstain from farther comments upon this case. Although the patient has not yet improved as far as he no doubt will in course of time, be restoration of a deformity as represented in Fig. 1 and 2, Plate II., to a well shaped foot like Fig. 3, shows what can be done by operative orthopœdy, and although, in so desperate a case as the present, even after the form is restored the patient will always remain more or less lame, yet his condition may be vastly improved. A circumstance also, which deserves consideration, because it is seldom appreciated by any other person than the patient himself, is the moral influence which the relief from so hideous a deformity has upon the mind, even if the locomotive power should not be materially improved.

CASE VI.—*Congenital T. Varus on both Sides; patient past 19 Years old. Division of the Tendo Achillis on the Right Side; and of the T. Achillis, tibialis anticus, and aponeurosis plantaris on the Left Side.*

IN September, 1838, Miss P. from Alabama, consulted us. She was 19 years old, and had been born with both feet deformed. It was the usual form of varus, with strong contraction in the sole, which made the feet appear unusually short.

On the 27th of September we divided the tendo Achillis in both feet, and 24 hours after, we put on the extending apparatus. The right foot yielded soon, but the contraction of the m. tibialis anticus, and of the aponeurosis plantaris in the left foot, appeared so strong, that we were induced to divide both in the course of the treatment. But the young lady bore the pain from the extending apparatus very badly, and loosed the straps, almost invariably, soon after we had tightened them. The right foot was restored to the proper shape in a few months, whereas it took nearly ten months before we succeeded in getting the left foot entirely straight. She left New-York for the South in the fall of 1839, and walked very well, still wearing, however, Scarpa's shoes.

We have briefly stated this case to show that perseverance on the part of the surgeon is absolutely necessary, and that success is certain, even if it should require a much longer time than is usually requisite. In this case, the constant loosing of the straps was undoubtedly, in a great measure, the cause of the slow progress of the cure; yet we have treated patients who, at least as far as we know, did not loose the instruments, and where it took nearly as long before the feet could be got entirely straight. We do not believe that the division of the tibialis anticus and of the aponeurosis plantaris was of any use in accelerating the cure in this case. We hardly ever saw much effect from it.

CASE VII. — *White swelling in the Knee-joint; patient* 14 *Years old; contraction of the Flexores of the Knee. Division of these muscles.*

IN January, 1839, we were consulted by Miss ———. According to her mother's account, she had received a fall on the left knee when about six years old; inflammation and swelling of the joint followed, and left a slight contraction of the knee, but so that the foot still touched the ground, the heel being only raised a few inches. Since that time she has occasionally hurt the knee, and the evil grew worse, when about three years ago, she was obliged to have recourse to crutches, the knee being bent to a right angle, and the foot, of course, not touching the ground. The mother was exceedingly anxious to ascribe the evil altogether to external injuries, although it was unquestionably of a scrofulous origin. A great variety of remedies of all descriptions had been used, and even an attempt made at mechanical extension, but nothing had made a favourable impression upon the joint. On examination, we found the knee much swelled; the swelling occupying the soft parts around the joint, so as to make the outlines of the condyli indistinct. The knee was bent into a right angle, and so firmly kept in this position, that the greatest force which we applied with the hands could neither straighten the leg at all, nor bend it any farther. The joint was not painful. The leg, from below the knee, is about half an inch shorter and much thinner than the opposite one, the foot is also smaller.

On the 4th of February, 1839, we divided under the skin, the tendons of the m. m. biceps femoris, semimembranosus, and semitendinosus, and also a part of the fascia. Reunion of the external wounds took place within 24 hours, and we applied, the day after the operation, the instrument of which Fig. 2, Plate IV. is a representation. a and b are two concave iron splints well padded inside, which are applied on the back part of the leg, a above, and b below the knee, leaving the fossa poplitea uncovered between them. They are connected, on each side, by an iron rod with a joint c corresponding with the knee-joint. d d are soft cushions which are placed upon the front of the leg, to prevent pressure from the straps by which the instrument is fastened to the leg. e is a square piece of thick buckskin which is strapped over the knee, the straps going round the iron rods on each side. f is a long screw, and g a hollow cylinder for the reception of the screw. The cylinder g turns, and thus bends or straightens the instrument. In straightening the leg contra-extension is made with the leather knee-cap.

This instrument we put on the day after the operation, and thus gradually straightened the leg. The young lady was excessively nervous and we were obliged to proceed very slowly, for we had to give every time an account how often the screw was turned. The patient kept her bed during the whole time of the treatment, not from necessity or by our advice, but from choice, being determined not to get up until her leg should be straight. Iodine ointment was rubbed once a day on the knee, and the leg washed with spirituous lotions. In about three months, the leg had become so straight that our young patient made her first attempt at walking. She has since improved daily, having spent the summer in the country, walking about all day without getting tired — walking now very well without crutch or cane. She commenced walking with the instrument applied, and changed it afterwards for a splint made of stiff pasteboard, but we have not been able to prevail upon her to try a single step without it, because she fears her leg would contract again. Consequently she walks with a stiff knee, and with little limping, as the leg is a little shorter than the other. We do not doubt that by exercise, free motion would be restored to the knee, as we can now bend it to some extent, without pain to the patient. The foot of the affected side has grown since she began to use it, and the leg is also increasing in size.

CASE VIII. — *Congenital T. Varus of the Right Side. T. Valgus developed on the Left Side.*

IN January, 1839, Mr. P. applied to us with his child, a boy about six months old, born with a varus on the right side. As the contraction of the gastrocnemii yielded to extension made with the hand, we did not deem it necessary to divide the tendo Achillis. We therefore applied, for about a fortnight, an extending apparatus, and then put on Scarpa's shoe. The foot had become perfectly straight, and the child began to walk before it was quite a year old. We recommended the continued use of the shoe. During the summer the family went into the country with the child, and thinking the shoe no longer necessary, neglected putting it on. Meanwhile the child was taken ill, and when it, after its recovery, began to walk, the foot turned in again, while, in the left foot, a valgus developed itself. In September, 1839, we saw the child again, and found the contraction of the gastrocnemii in the right leg stronger than it had been before, and the child walking altogether upon the outside of the foot. In the left foot there was no muscular contraction, but an extreme laxity of the tarsal ligaments, so that the foot might be easily turned either way with the hand, but in walking the child stepped entirely upon the inside of the foot. We divided the tendo Achillis in the right foot, and put on, the following day, Scarpa's shoe. We had a similar shoe made for the left foot, only with the springs inside, instead of outside, and in less than a fortnight the child walked with both feet perfectly straight. The use of the shoes is of course continued.

CASE IX. — *Noncongenital T. Equinus Spasmodicus of the Right Side; patient nine Years old. Division of the Tendo Achillis.*

IN February, 1839, we were requested to see the son of Mr. T. a boy nine years old. The child was born with straight feet, but when he began to walk, the right foot touched the ground only with the toes. The parents knew no cause to which they could ascribe the circumstance. We found a talipes equinus, without any further deformity of the foot, except a slight turning in. The ankle-joint was perfectly supple, and when the boy was sitting or lying, the foot could easily be bent into a right angle with the leg, and even farther, but as soon as it touched the ground, and the weight of the body had to be supported, the gastrocnemii contracted. The belly of the muscle would then be felt hard and drawn up; the heel was raised from the ground about four inches, and the boy had no control over the ankle-joint. The family had, for several years, tried every kind of external application, and would not listen to any thing but an operation.

We divided, on the 17th of February, 1839, the tendo Achillis, and fearing a too wide separation of the extremities, as the joint was so supple, and the contraction decidedly spasmodic, we applied an apparatus to bring them together, consisting of a bent splint over the knee, and a straight splint over the front of the ankle-joint. We kept the foot thus for four days, to make sure of the reunion, the fifth day we left it to itself, and on the 6th we put on our machine and commenced extension, but found that we could bend the foot as easily as we could before the operation, when the boy was lying down. We therefore determined merely to keep the foot for some time in such a position as to prevent the recurrence of the spasmodic contractions, and kept the straps of the instrument very loose; notwithstanding, about five days after it had been put on, the boy had a blister on the back part of the leg, where it had rested against the edge of the leg splint. We therefore took it off, and to avoid contraction of the m.m-gastrocnemii, we put Scarpa's shoe on and recommended the horizontal position, when, to our surprise, we were called again in the afternoon to witness the boy walking perfectly well with his heel to the ground. In this case the division of the tendo Achillis had evidently cured the muscular spasm, dynamically, and we have not the least doubt that the patient would have walked just as well immediately after the reunion of the tendon, without any subsequent extension.

CASE X. — *T. Varus acquisitus on both sides; patient* 15 *years old. Cured without an operation. Extensive sloughing of the skin.*

IN July, 1839, our professional aid was sought by Mrs. T. from Auburn, New-York, for her son, a lad 15 years old, who was born with straight feet and had already commenced walking. He was taken ill at the age of 18 months and remained lame after he recovered from that illness. The spine seems to have been affected; there is now a curvature of the lumbar vertebræ. The feet remained straight at first, though the boy was lame, but varus was gradually developed in both feet. The boy had almost ever since worn some instrument or other on his feet, and consequently, the deformity had been prevented from reaching that point where a firm basis for support is formed. The boy therefore walked very badly; yet the contraction had been kept in bounds, so that notwithstanding the existence of the disease for about 13 years, we thought it possible to avoid an operation and to straighten the feet merely with instruments, and therefore applied the apparatus. The patient complained of a good deal of pain; but as the instruments were not at all tight, the feet yielding easily, and as the boy seemed a spoiled child, we did not mind his complaints. However, on the 6th day the toes began to swell, and we immediately took off the apparatus, when we found, to our great surprise, the skin on the posterior aspect of the leg and under the sole of the foot sloughing to a considerable extent. It was evident that this accident had not been produced by our having kept the instrument too tight, for in such cases the skin gets blistered and sore where the straps are applied, and where censequently the pressure is greatest. But in this case it was a real *gangræna e decubitu.* It was where the leg had been resting on the wooden splint and the sole against the wooden footboard; an accident more apt to occur where the deformity is the result of paralysis. We could not, of course, think of putting the instrument on again, but had to wait for the separation of the sloughs and the cicatrization of the wounds. We then cautiously applied the apparatus again, and about three months after the commencement of the treatment, the patient returned home, walking perfectly well with the aid of Scarpa's shoes.

CASE XI. — *Contraction of both Knees in consequence of Abscesses; patient* 13 *years old,* (*Fig.* 1, *Plate IV.*) *Division of the flexores genu.*

IN July, 1839, we saw the son of Mr. F. of this city, a lad 13 years old, walking upon crutches as represented in Fig. 1, P. IV. We had been called to attend a child with club-feet in the same family, for the subject of the present case had been considered so utterly past cure, that when we asked to examine him, the family considered it merely as a matter of professional curiosity, and were little inclined to believe us when we pronounced the case curable.

The history of the case, as far as we have been able to ascertain it, is in substance, as follows: The boy, when three years old, was attacked with scarlet fever, which made a metastasis upon both knee-joints. The joints became inflamed and abscesses formed. For several successive years, there were fistulous openings in both joints, and, from time to time, new abscesses formed; the boy's general health suffered much. Within the last nine years, all the openings had closed, and the boy's general health had become good and strong. The extent of the ulcerations in the joints, we were only able to judge of, from the scars. On the right knee there were six and on the left five large scars, some adhering to the bones, some to the subjacent ligaments; but the appearance of all the scars and their deep adhesions, showed that they were the remnants of deep seated suppuration, not of mere superficial abscesses. Some of them which were on the anterior aspect of the joints are represented in the drawing. The tendons of the flexores genu are felt strongly contracted, and both knees are bent in a right angle, and there is but a very slight motion left in the joints. The patient touches the ground only with the point of the great toes. In moving, both feet stand forward, the body leaning back against the crutches, whose lower ends, again, stand backwards, so that the centre of gravity falls behind the feet, between them and the crutches. The walking is exceedingly difficult, and a distressing sight; the boy, therefore, moves mostly on his knees, in consequence of which, in front of each knee-joint, is a swelling from an enlarged bursa mucosa.

In presence of a number of surgeons and physicians of this city, we divided, on the 10th of July, 1839, the tendons of the m. biceps femoris, the m. m. semimembranosus and semitendinosus, and a strongly contracted band of the fascia, in both knees. In the left knee, one of the scars was just over this contraction of the fascia, and the skin was so drawn in, and at the same time, so thin, that after the subcutaneous division of the fascia, when the two portions separated, the scar became so hollow, and the skin so very thin and tense, that we feared it might ulcerate; we therefore divided the scar itself, and, although we made only a transverse cut through it, the wound produced was perfectly round and had completely the appearance of a wound with loss of substance. We filled this wound with dry lint, put small pieces of court plaster over the other wounds, and immediately after the operation, though without making, at first, much extension, we put instruments, (like the one represented in Fig. 2, Plate IV., and described in case VII.,) on both legs, and applied, for the first 48 hours, compresses with cold water over the fossæ popliteæ. All the small wounds healed by the first intention, and that produced by dividing the scar healed very soon by granulation. The patient only kept his bed for three days, after that time he moved about upon his crutches as before the operation; he suffered very little pain, and only for a short time, when the instruments were straightened. Extension was made gradually, by straightening them a little every day, and about two months after the operation the legs had become so straight that the centre of gravity falling now upon the feet, the boy was able to stand without crutches. About four months after the operation, the boy commenced to walk without them, and, at the time we are writing this, five months after the operation, he has left off his crutches entirely, and walks about all day, wearing the instrument still on both legs, and walking with stiff but perfectly straight knees. We shall pursue, in this case, the same course which we generally follow under similar circumstances. After the patients have been walking for a while with the instruments entirely straightened out, we take them off and put in their place splints of stiff pasteboard, which are fastened with a bandage to the back of the leg, for the support of the yet weak knee-joints. After the legs have gained more strength, we leave these also off, and try to restore, by exercise, the free motion of the joint, which we have no doubt we shall fully accomplish in this case; thus restoring a cripple, who for years had been really a distressing sight, to the full use of his limbs.

CASE XII. — *Congenital T. calcaneus on both sides (Fig. 3, P. I.) Cured by a bandage.*

IN June, 1839, we were requested by Mr. L. then of this city, to see his infant, which had some deformity in both feet. We found a female child ten days old, very much emaciated. The parent, however, told us that she had improved already since birth. Both feet represented that form of distortion which has been described above, under the name of talipes calcaneus of which Fig. 3, P. 1,) gives a drawing, taken from the left foot of the subject of this case. The child had been born so. The muscles on the anterior aspect of the leg were so strongly contracted that the dorsum pedis touched the front of the leg; the tibia and fibula were slightly bent with the concavity looking forward. There was hardly any trace to be felt of the muscles of the calf. The feet could be extended a little, but when the attempt was made, the tendons in the instep became so tense and prominent, that we had little hope of remedying the deformity without dividing them. Yet the tender age, and the extreme weakness of the child, made us unwilling to submit it to an operation. To prevent, however, the deformity from getting worse, we applied a loose bandage to both feet, the turns of which we crossed over the instep, and less by the tightness of the bandage, than by the quantity of it which we applied over the instep, we prevented the further contraction of the muscles. We continued this bandage for several weeks, and to our agreeable surprise the contraction yielded to these simple means. After the bandage had been used four weeks, the feet remained, when left without it, in a right angle; still we recommended the continued use of the bandage; and when we saw the child last, about two months ago, it was a healthy looking child, the muscles of the calf were fully developed, and there was no remnant of the deformity left.

CASE XIII. — *T. Varus congenitus on both sides; patient 3 years old. Division of the Tendo Achillis. New contraction; second operation.*

IN May, 1838, we had operated on Mr. B.'s child for congenital varus on both sides, by dividing the tendo Achillis. The case presented nothing remarkable. In a few weeks the child was able to walk well with Scarpa's shoes, and we dismissed the patient with the advice to keep the shoes on. In July, 1839, the family brought the child back to us, with both feet nearly as bad as they had been before we had operated upon them. The father stated to us, that he had kept the shoes on for several months, and then left them off, deeming them no longer necessary. The child had continued to run about with common shoes for four months, with the feet perfectly straight, when it was taken ill with the whooping cough. It was, for several weeks, at the point of death, and when it recovered and began to walk, the feet turned in and soon became again as bad as they had been before. The gastrocnemii were strongly contracted. We divided the tendo Achillis in both feet a second time, a little higher up than the first time, to avoid the scar from the first division; we put on, two days after the division, Scarpa's shoes, and in about a fortnight, without having made any extension upon the muscles of the calf, the child walked again perfectly well.

We have had two other cases similar to this, where we also divided the tendon a second time.

SUMMARY.—Of the 167 patients with distorted feet which we have examined and treated within the last two years, and from the observation, of which the foregoing facts are derived, 98 were males and 69 females—38 were within their first year; 62 between the 1st and 3d; 31 between 3 and 12; 27 between 12 and 25; and 9 between 25 and 50.

125 were born with the deformity; 7 of these squinted at the same time. In 42 it originated after birth; in 9 of these it was connected with an evident affection of the spine. In 19 cases there was an hereditary predisposition; (in 18, members of the father's family—and in 1, of the mother's having a similar defect.) In 6 families several children had the same deformity.

In 93 both feet were affected; in 41 the right alone, in 33 the left, (aggregate 260.) 230 were T. varus, 11 T. valgus, 17 T. equinus, 2 T. calcaneus.

Treated without division of tendons, 2 T. calcaneus, 11 T. valgus, 45 T. varus. The oldest patient treated without an operation was 15 years old—13 between 1 and 4; the rest less than a year old. The youngest patient in which we have divided the tendo Achillis, was 3 months old.

In 163 we divided the tendo Achillis alone; in 17 we divided other tendons also, and the aponeurosis plantaris. In 3 cases we have divided the tendo Achillis twice.

In many cases where the deformity was developing itself after birth, it only required the application of a suitable shoe to remedy it, and make the patient at once walk straight. In cases where the deformity had reached a higher degree, and where we had to divide tendons, the shortest period in which the patient could walk well was 8 days; the longest 10 months. But amongst this whole number which we have treated within these two years, there are hardly 50 who, with our consent, have left off all support; the rest still use it. For the result of many cases we cannot answer, as in many instances the children were brought, perhaps only once or twice, to our office, and a shoe provided for them, and we never saw them afterwards.

We have in other contractions divided: 1 sternocleido-mastoideus; 1 biceps brachii; 1 flexor carpi radialis; 1 flexor carpi ulnaris; 1 palmaris longus; 1 flexor digitorum manus sublimis; 4 flexor tendons of separate fingers; 1 pectineus; 6 biceps femoris; 7 semimembranosus and semitendinosus; 5 extensor tendons of separate toes; 3 flexor tendons of separate toes; besides a number of times, different portions of fasciæ and aponeuroses.

In every one of these cases the external wounds healed by the first intention, and only in one case, after the division of the m. flexor digitorum manus, we saw inflammation and an abscess, *vide.* Case V.

ART. II.* *A Clinical Lecture on the Operative Surgery of Tumours.* (Delivered at the New-York-Hospital, December, 1838.) By ALEX. H. STEVENS, M.D.

As you have recently witnessed an operation for the removal of a tumour, I design, on the present occasion, to make some remarks upon this branch of operative surgery; — I am the more especially led to do so, because it is not a subject well understood by young practitioners, nor, so far as I know, correctly described by any surgical writer.

The proper mode of removing tumours with the knife, is by far the most important of all the knowledge you can acquire of these diseases; —for such is their diversity, that all attempts at a regular classification have been so unsuccessful as to be comparatively useless. The diagnosis of the various species, founded upon their external appearances, is, in many cases, exceedingly uncertain; even dissection, after their removal, sometimes leaves us in doubt as to their true character. Again, but a very few can be removed, or prevented from increasing in size, by any other means than a surgical operation. It is, therefore, hardly an exaggeration to state, that in practice, the sum total of all our useful knowledge is that which teaches us the best method of performing these operations. This, then, is the subject of the present lecture.

Tumours often form beneath the scalp or the integuments of the eyelids. These are usually hollow, that is, they contain matter more or less fluid, and are called *encysted*. They adhere very loosely to the adjacent parts.

The most common mode of extirpating these tumours is by dissecting them out; but this is not always easily done, especially if the tumour be very small. I have known half an hour occupied in removing a tumour, not larger than a pea, from the upper eyelid. Sir Astley Cooper advises that they should be cut into, and then torn out. If the first of these operations is attempted, the surgeon should be quite sure that he does not begin to dissect around the tumour until he has laid it quite bare. But I prefer the other method, and this is the way of proceeding that I would recommend: — At the first incision, I would cut freely into the sac of the tumour; seize the sac with the forceps, and pull it away either at once, or in different portions. If the sac resists, it will be because you have seized with the forceps one or more of the layers of cellular tissue which are always found surrounding the sac, and which are occasionally dense and strong. The connection of the sac with these layers is loose, but they adhere closely to each other. A few months since I removed, in two or three minutes, six of these tumours from the head of a young gentleman of this city. The rule, therefore, is this:—*cut into the sac and turn it out;* but do not attempt to tear away anything else with the sac.

If it should happen that any portion of the sac has formed strong adhesions to the surrounding parts, an occurrence which is extremely rare, it is proper that you should understand that a perfect cure may be obtained by destroying the internal membrane (which is seldom thicker than parchment,) with a slight application of the kali purum, or of the nitrate of silver.

In the extirpation of *solid tumours*, (I exclude a few cases of small malignant tumours where it is desirable to remove with the tumour a considerable mass of the circumjacent parts,) there is one rule which should never be lost sight of, and by following which, many difficulties will be avoided;—it deserves to be written in letters of gold. Did I say one rule? Let me rather say two rules, the first of which is this:—*cut down to the tumour.* This may seem to be a simple matter, so simple that the necessity of it must occur to every one. Be this, however, as it may, I do aver that in some hundreds of tumours which I have seen operated upon, and often by very skilful surgeons, the tumour has seldom been fairly exposed and laid bare before its dissection has been commenced. Vessels have been unnecessarily divided, and the whole operation has been protracted by the loss of blood, and the necessary application of ligatures to the arteries. How this happens I will now attempt to explain.

Let us take for illustration, the very common case of an enlarged lymphatic gland, in the neck. In its normal condition, this gland is supplied by one principal nutritive artery, and it is surrounded by an indefinite number of layers of cellular tissue. The layer next the gland embraces it like a shut sac; the exterior layers in contact with this, diverge and surround the adjacent parts. When the gland becomes enlarged from hypertrophy, or by becoming the seat of malignant deposits, the innermost layer of cellular tissue forms a sac, and its connection with the gland is usually loose, so that it may be readily stretched, or torn with the finger or the handle of the scalpel. The outer layers are also, in general, loose, and capable of being torn in the same way; but the manner in which they are applied to the gland, or rather to its sac, is worthy of particular attention, as affording a clue to the difficulties which are often encountered in these operations. The external layers of cellular tissue which cover the gland become, in the progress of its enlargement, stretched upon the exterior surface of the sac, being sometimes adherent to it, and to one another; from this point they diverge, passing to the anterior surface of some muscle, nerve, or blood-vessel, or to the posterior surface of some of these or of other organs. The tumour itself, in the meanwhile, receives no new vessel, other than that which originally supplied it, even though it may have grown so as to completely surround the carotid artery, the internal jugular vein, and their branches. Even in this case, the proper sac will be found interposed between these parts and the tumour. These vessels are, in other words, pressed into the side of the tumour, which, with its sac, becomes folded around them; — thus, strictly speaking, they form no part of the tumour, being exterior to the sac.

Keeping in mind the close application of several layers of cellular, tissue over the most superficial portion of the tumour, (the first and greatest enlargement of the tumour being in this direction, because it is there least opposed in its progress by the pressure of the surrounding parts,) and the separation of these layers on the lateral and deep-seated portions of the tumour, it is easy to understand: —

1st, That important blood-vessels, nerves, and other organs may be brought into close proximity to the morbid growth without absolutely touching it.

2nd, That if the surgeon, in cutting down upon the tumour, does not divide each and every layer investing the tumour before he begins to dissect around it, he cuts outside the sac, gets into some of the folds of cellular tissue, and encounters parts which ought not to be meddled with. He finds his knowledge of normal anatomy of little service to him; he gets away from the tumour, and makes a tedious and bloody operation in a case, where a different method of proceeding would have made every thing plain and easy.

Finally, when the tumour is removed and examined, folds of cellular tissue, perhaps portions of muscle, or of other parts, are found to have been removed with it, which can be torn off, and that very readily, from its external surface. Had the surgeon, in the first instance, cut down to the tumour after dividing every layer investing it, no more difficulty would have been experienced in tearing these layers from the tumour before it was removed than afterwards.

If a surgeon is not familiar with operations upon tumours, he will almost uniformly fall into the error I have pointed out. The layers of cellular tissue are so transparent, and so closely applied to one another, that the tumour is distinctly seen, even when it is covered by several of them. It is better for a young surgeon, and even for an old one, if he has any doubt in the matter, to cut a little into the tumour, in order to be sure that he has fairly cut down to it.

Having reached the tumour, if the cellular tissue can be torn by the fingers or by the handle of the knife, tear it; — in cases where it cannot be so torn, cut in this manner: put the tumour upon the stretch, and cut lightly upon it near its points of attachment. Thus you avoid the possibility of any large blood-vessel or nerve being brought under the edge of your knife without being seen.

If the tumour is very large, or is deeply seated, it will, sometimes, be advisable, after having separated the attachments of the exterior portion of it as deeply as possible, to remove this portion. The removal of the remaining portion is thus much facilitated. In this manner, I safely removed a large tumour situated beneath the mastoid muscle, and which embraced the ninth pair of nerves in one part, and the common carotid artery, the internal jugular vein, the par vagum and œsophagus in another part; after very little cutting the sac was separated from these parts. I have never taken up the carotid artery for the removal of a tumour in the neck or face, nor do I believe that it is ever necessary.. If the principles already laid down are carefully observed, there will be no danger of hemorrhage, nor yet of sloughing, from the nerves and blood-vessels being extensively laid bare; — laid bare, indeed, they are, but their sheath still covers them, and is sufficient for their nourishment. I have, on several occasions, left them plainly exposed, from the sternum to a point above the bifurcation of the carotid artery, and have never known secondary hemorrhage to follow.

In conclusion, I do not feel willing to admit the impossibility of safely removing any tumour about the head or neck, always excepting enlargements of the thyroid and parotid glands, of the successful results of which operations I have no knowledge.

In some cases of malignant tumours, not only the superficial, but other portions of the sac will be found closely adhering to the adjacent parts. If the tumour is in the vicinity of important parts, as in the axilla or neck, the plan I would recommend is this: — cut down until the knife fairly enters the diseased parts, then, by the sight and touch, decide where the tissues, adjacent to the disease, are entirely healthy; make a slight incision into them on the distal side of the tumour; continue to separate them with the handle of the scalpel and the finger. If you are among healthy parts, as you proceed the cellular and other tissues will yield to a very moderate degree of force; the separation of the veins, arteries, and, lastly, the nerves, will require more force, increasing in the two last named. These parts will be felt like strings holding the tumour, and are not easily separated. Be careful not to use much force in the separation of a large artery, and still more in the separation of a large vein. It is a great mistake to suppose that arteries when torn never bleed: I have often seen them bleed, *per saltem*, after having been torn by the finger. Still, they do not bleed so freely as when cut, and, moreover, their orifices are usually easy to be found, and as easily secured. They also stop bleeding much sooner, if an attempt is made to check the hemorrhage by pressure. A nerve no larger than a silk thread is half as strong; yet I have broken them when nearly as large as a small crow quill. My practice is to bring the resisting cord, be it vein, artery, or nerve, into view upon the palmar side of the fore-finger of my left hand, and then to seize it with the forceps, and divide it half an inch on the distal side of that instrument. If it is an artery, its patulous mouth will be seen, and a ligature may be applied before the forceps is removed. Thus you will conform to the *second rule*, that is, to remove the whole tumour and nothing more.

The dangers of operations for the removal of tumours may be thus enumerated, in the order of their magnitude, in the majority of cases:

1st, *Hemorrhage.* This may be either venous or arterial; usually the latter. Venous hemorrhage may be diminished by placing the patient in such a position for some time before and during the operation, as will favour the return of blood by gravitation. Large veins running over the surface of a tumour may be rendered distinct by pressure and pushed to one side, or tied and divided.

Arterial hemorrhage may be diminished by tearing the vessels from the tumour. I have seen some surgeons tear the tumour itself out: this cannot always be done except to a limited extent, because a large number of parts are thus put upon the stretch at once. The better way is to hold the tumour, and tear off its investments, one portion at a time, with the fingers or with a strong pair of forceps: this method is also less painful than the former. Sometimes a vessel will retreat behind the ramus of the lower jaw, or into the axilla, and give rise to a troublesome bleeding. As these are usually the last attachments to be divided, it may be prudent to tie them before this division is made. I would also advise you always to divide and to secure the trunks of arteries, before dissecting among their branches. If you neglect this rule, you may cut and tie the same vessel half a dozen times, as I have often seen done. This is the reason some surgeons are constanly encountering tumours of extraordinary vascularity; this vascularity being, in fact, simply owing to their wandering away from the sac of the tumour, and dividing the vessels at each successive cut nearer and nearer to the heart.

An important means of diminishing hemorrhage, in the removal of large tumours, is to subject them, for some hours previous to the operation, to the influence of cold applications. This, besides lessening the quantity of blood in the parts, has the effect also of diminishing the sensibility of the nerves, and thus essentially moderating the danger from the shock of the operation.*

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* It has often occured to me, though I have never put the idea into practice, that cold might be readily applied so as to cause tumours to slough out, and that the process would not be attended with as much pain as caustics, or even the knife.

Another, fortunately a more rare source of danger in operations for the removal of tumours, is the *introduction of air into the veins.* I have met with this occurrence only once in my practice, and that was in this Hospital about ten years since. I was in the act of removing the last of several of the deeper chain of lymphatic glands of the neck, which had become enlarged so as to interfere with the functions of deglutition and respiration, and was cautiously using the knife about half an inch on the outer side of the internal jugular vein. After a slight escape of venous blood, I heard a noise like that produced by drawing up with a syringe the last drop of water in a vessel. I immediately placed my finger over the spot from which the blood had issued, not being able to discover any orifice; and looking the patient in the face, asked him how he felt, he answered, "very well." Marks of consternation were visible around me, and many suggestions were made which I did not heed, but calling for an eyed probe, I directed a ligature to be passed through it. I applied to the internal jugular vein two ligatures,—one above, the other below the wound, directing them to be successively tightened. I then removed my finger, and proceeded with the operation. No bad consequences followed the application of the ligatures. The wounded vein appeared to be a branch of the internal jugular, but I did not think it safe to pass a ligature directly round the divided vessel, not liking to run the hazard of removing the pressure of my finger.

I have enumerated, under the preceding heads, all I have to offer on the first branch of this subject, except that I would dissuade you from performing any operation upon a female about the menstrual period: and when about to perform it, to have the instrument within your own reach, rather than to have it handed to you by an assistant.

In operations of great magnitude, I like to have the assistance of a judicious medical practitioner; he need not be a surgeon, but he should know what human nature will bear, and what it will not. If he is a personal friend of the patient, so much the better. I request this person to attend to the personal comfort of the patient, (there is comfort in a well performed operation, comparative comfort at any rate,) to see that his position is easy, that he is supplied with suitable drinks, and, above all, to keep me informed, by a look or word, how the patient's pulse continues,—how he sustains the operation; not but that the surgeon should judge for himself of the condition of his patient, but with this assistance, he will avoid having his mind distracted too much from the manipulations of the operation; he will still find suitable occasions to give a look or word of sympathy and kindness.

An adult, with ordinary powers of endurance, will, generally, sustain an operation of the average severity, during protracted suffering of one hour's duration,—rarely much more than this. A clammy skin, with coldness of the extremities, and a soft, thready pulse, indicate alarming exhaustion of the vital powers. But an experienced surgeon will judge most accurately from the expression of the countenance, from the eye and mouth especially:—the former partially loses its lustre, the latter becomes relaxed, until, finally, the eyes are turned upward, and the jaw falls, indicating an almost hopeless condition. The voice, also, is an index of the degree to which the vital powers are sunk; its tones become more and more feeble, until, at length, the patient can only speak in a low whisper, like one in the collapsed stage of cholera, and finally ceases to articulate at all. On the first approach of this state of things, I would advise you to give your patient a few minutes' respite. I give you the above indications, as being the only ones that occur to me as capable of being conveyed by language; your own observation will hereafter enable you to determine their real value. It is also important for you to know that a patient will endure a long operation much better by being allowed two or three short intervals in which to rally during the progress of an operation, it being more easy to prevent him from sinking, than to raise him from extreme prostration.

In conclusion, let me advise you never to undertake an operation which your own judgement does not approve. In a matter involving life, the wishes of the patient, either for or against the operation, should go for nothing, and so should the authority of others. If reasons cannot be given that convince you, retain your own opinion, and act upon it, if the patient will submit to it.

Finally, do not assist or countenance, except officially as hospital surgeons, an operation undertaken against your judgement

I acted otherwise on one occasion; certainly I shall never do so again. After the operation had but fairly commenced, I saw, by the patient's countenance, that he would sink under it, and taking aside a friend of the operator, I entreated him to use his influence, which I thought would be effectual to avert the further procedure: but my request was not regarded, and the patient survived only a few hours.

It is not in the way of self praise, but from an endeavour to give value to the remarks I have made, that I say, that during the course of five and twenty years' practice, during most of which time I have been a surgeon in this Hospital, I have never declined an operation as impracticable which afterwards proved to be otherwise, and that I have never lost a patient from the immediate effects of any operation I have undertaken.

ART. III. *Observations on the Influence of Malarious Atmosphere in the Prevention and Cure of Phthisis Pulmonalis.* (Read before the New-York Medical and Surgical Society.) By HORACE GREEN, M.D. of New-York. Professor of the Theory and Practice of Medicine in the Vermont Academy of Medicine.

DURING the ten years preceding 1836, I was engaged in a somewhat extensive country practice, in Rutland, Vermont; — a place where pulmonary affections are unusually rife. In the commencement of my practice there, I was led to observe that, whilst the deaths of nearly one half the adults who died at this place were caused by consumption, other places, in its immediate vicinity, were almost entirely exempt from the disease. This fact early led me to inquire why the inhabitants of places so immediately contiguous to each other, and, apparently, subjected to the same influences of climate, habits, &c. should be so widely different in the degree of immunity from this disease? It is only a few of the results of these inquiries that I propose, at this time, to submit to the Society.

Rutland is situated on the west side of the Green Mountains, and contains about three thousand inhabitants. It is divided into two parishes by Otter Creek, which runs through the centre of the town. The soil, which is alluvial, is wet and loamy, the atmosphere humid. The climate, during the spring and autumn, is extremely variable. The summers hot, and the winters long and cold. The thermometer, for many days during the summer, will range from 80° to 96° Fahrenheit, and, in winter, it has frequently fallen to 18,° 20,° and even 26° below zero. The number of deaths in Rutland, for the last ten years, have been three hundred and eighty. The number of adults (over twenty years) about one hundred and eighty. Of this last number, nearly one half have died of phthisis pulmonalis. The cold and humid climate, the vicissitudes of temperature, and the long and severe winters, may account for this unusual frequency of pulmonary diseases.

Whitehall, in Washington County, N. Y., is about twenty miles west of Rutland, and contains about the same number of inhabitants. It is situated at the mouth of Wood Creek, which empties into Lake Champlain. This town is bounded on one side by low, marshy grounds, which are filled with stagnant waters, and from which, during the summer months, malarious exhalations are constantly rising; producing, in the vicinity, an abundance of intermittent and remittent fevers. Indeed, so common are intermittents here, that the remark has become proverbial. "To go to Whitehall, is to get the ague and fever." Yet consumption is seldom or never known in Whitehall. I have been at much pains in making inquiry, and I have not been able to learn that a single, unequivocal case of *indigenous* phthisis has occurred in Whitehall during the last ten years. All the other lake towns in that region, so far as I have been able to ascertain, where intermittents prevail, are equally exempt from pulmonary phthisis. From these facts, and others which I shall mention, I have been so well convinced of the incompatibility of consumption and intermittents, that, for several years, I have been in the practice of advising my consumptive patients to visit places where an aguish atmosphere prevailed. In many instances the result has been decidedly beneficial.

The following are a few cases illustrative of its effects:

Case I.—A young lady, aged 16, had been labouring, for several months, under symptoms of incipient phthisis. She was hereditarily predisposed to the disease. Her mother and an elder sister had died of consumption; and several near relations on her father's side. The prominent symptoms were, a short, dry cough; pain in the left side; a burning in the palms of the hands — particularly at night; dyspnœa following the least exercise, lassitude, &c. Symptoms which were remarked by herself and the family as being the same with which her elder sister, who died, had been affected. With the other members of the family, medication had had, apparently, no salutary effect. Indeed, it seemed to have hurried them with greater rapidity to the grave. Under these circumstances, I advised her father to send her into the vicinity of the lakes, where she might be subjected to the influence of an *intermittent* atmosphere. For this purpose she spent the summer of 1831 in Whitehall. She had not been there many months before there was an evident improvement in her symptoms. Before the close of summer she had an attack of intermittent fever. It was slight, — having ceased after one or two paroxysms. Her improvement, after this, was rapid; and, before winter, she returned to her father with restored health. She is now married to a gentleman in New-York, and, up to the present time, has enjoyed uninterrupted health.

Case II. — Was that of a lady, aged about thirty, who also had the hereditary taint. For several years she had been threatened with consumption; but, by care and prudent management, the disease, for a long time, was kept at bay. At length her symptoms became more alarming, being decidedly those which mark the incipient stage of phthisis pulmonalis. Aware of her danger, she was induced, in 1830, to take up her residence in one of the lake towns, where she could enjoy the benefit of an intermittent atmosphere. A few months after her removal to this place, I saw her, and found her restored to almost perfect health. She is still residing in that town, and in the enjoyment of good health, having had no return of her pulmonary affection.

The two following cases came under my observation in this city:

Case III. — A young gentleman, about twenty-four years old, of a consumptive family, suffered severely from an attack of the influenza, which prevailed to some extent in New-York, in the winter of 1837. He came under my care the latter part of that winter; at which time he exhibited the following symptoms:— A frequent, hard cough, unattended with much expectoration; constant pain in the chest; pulse one hundred; debility; loss of appetite; tongue coated; respiration a little accelerated; skin hot and dry, during the latter part of the day, with some perspiration at night.

The ordinary remedies were employed, which were followed with some abatement of the cough, and the pain in the chest.

On the 10th day after I first saw him he commenced expectorating blood, which continued several days. At the end of three weeks, his strength had improved and his cough had considerably abated; but as these primary symptoms of a pulmonary affection still remained in a great degree, I advised his leaving the city and seeking a more genial clime.

He went first to Ohio, where he remained several months; and from thence to Michigan, where, in the spring of 1838, he had an attack of intermittent fever. He returned to this city, about six months ago, in perfect health; not a vestige of that affection remaining, which he carried away with him.

Case IV.—Is that of my friend Dr. Z. H. Harris of this city, who has kindly furnished me with the facts in relation to it.

In November, 1836, Dr. H. caught a severe cold, which was followed by a cough, and, in a week or two, with an expectoration of purulent matter. His cough continuing about three weeks from the attack, hæmoptysis supervened, and this was followed, for some time, with a bloody expectoration.

These symptoms of phthisis becoming more alarming, as the winter advanced, he relinquished his practice and sailed for Mobile, early in January, 1838. So unfavourable did his symptoms appear, at this time, that one of the oldest and most experienced physicians of this city remarked to me, after taking leave of him, that "the Doctor would never live to return to New-York."

On the 4th of February he arrived at Mobile, where he remained several months; but went to New Orleans the June following, and from thence to Indiana; where, in August of the same year, he had an attack of ague, which continued for some time. About eight months since, he returned to New-York in confirmed health, and renewed his practice.

This very day, November the 20th, Dr. Harris visited me, at my office, in good health, and related to me the facts in his case.

I could enumerate other cases which have come under my own observation, but will only allude to one other, the history of which was communicated to me by my friend Dr. Woodward, formerly Professor of Surgery in the Vermont Academy of Medicine. Sometime since, a young woman labouring under consumption, — apparently in its confirmed, secondary stage, — was brought to Castleton, the residence of Professor Woodward, to die among her friends. Her mother resided upon the borders of a small marshy lake, in the westerly part of the town, — a neighbourhood where all new residents are sure to be affected with intermittent fever. Thither she was carried, and Dr. Woodward was called to attend upon her. He found her, as he informed me, exhibiting every symptom of ulcerated lungs. Indeed, so apparently hopeless was the case, that the medicines he prescribed were merely palliative; and he informed her friends that no permanent benefit could be expected, in her case, from the adoption of any means.

Several months after this, being in that neighbourhood, he learned, with surprise, that his patient was recovering; and, on calling to see her, he, in fact, found her nearly restored. Her cough, and every other unfavourable symptom had left her. Her health since has been permanently established.

Dr. Woodward gave it as his opinion, that in this case, — as well as in some other similar ones with which he has been familiar, — the persons were restored to health by breathing an intermittent atmosphere.

In connection with Rutland and this subject, I would allude to one fact, which may not be uninteresting. I have said that this town was divided by Otter Creek. Across this stream, in 1792, a dam was built opposite the village of East Rutland. This obstruction was sufficient to set the water back a distance of three miles; and to cause several hundred acres of swampy land to be overflowed. The next year, ague and fever, a disease hitherto unknown in Rutland, made its appearance among the inhabitants living on the borders of this stream. It soon extended to the village of Rutland, which is about one mile from the stream, and during the six or eight succeeding years, almost all the inhabitants were affected with intermittent fever. So general was the disease, and so apparent the cause, that the inhabitants petitioned the Legislature to have the obstruction removed. An act was passed accordingly; and in 1800, the dam was taken away. Intermittent fever immediately disappeared, and from that time to the present, has not again recurred. But the fact to which I allude is this. On inquiry of the older inhabitants, I learn that during this period of the prevalence of ague and fever, pulmonary diseases were arrested, and the consumption did not again make its appearance until some time after intermittents had disappeared.

If we examine into the past history of our own city, the same facts will be established. Cadwallader Colden, who wrote an account of the climate and diseases of New-York, more than one hundred years ago, says, in speaking of the diseases of that day, "we have few consumptions or diseases of the lungs. I never heard of a broken-winded horse in this country. People inclined to consumption in England, *are often perfectly cured by our fine air*."* It would seem that the climate, at this early period of our country, when the winters were long and intensely cold, would have been much better calculated to induce pulmonary affections than it is at the present day.

According to the testimony of the same writer, the winter then commenced about the middle of November, and continued severe until March. During this period the Hudson river was often "frozen over at the town, where it is about two miles broad and the water very salt, so that people passed over upon the ice, in crowds."†

At that time, and for many years subsequent to that period, New-York was surrounded with lagoons, and marshy grounds, from whence, during the summer months, those malarious exhalations arose, which so often proved the exciting cause of "intermitting fevers, cholera morbus, and fluxes," which, as the above writer states, were the prevailing diseases of that day.

As improvements have progressed, these fenny grounds and stagnant waters have been drained off, the sunken places filled up, and intermittent fevers have as gradually declined. But with this declension of ague, phthisis pulmonalis has steadily and fearfully increased.

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* American Medical and Philosophical Register, Jan. 1811, pp. 309—10. † Ib.

Dr. Morton, in his work on Pulmonary Consumption, ob serves: "I am satisfied however, that intermittent fever has not in this section of the country, proved a preventive against consumption. On the contrary, I have known persons whose constitutions were broken up by incessant attacks of ague and fever, to die of rapidly developed phthisis." But it is not advocated that an attack of intermittent fever, like vaccina, will shield the system thereafter, from a more fatal disease. Had Dr. Morton witnessed, as I am confident I have, the salutary influence of a continued aguish atmosphere upon phthisical patients, he would have viewed its effects in a different light. I have repeatedly seen symptoms of incipient pulmonary affections, — such as usually precede, and, in other cases when neglected, such as have ended in confirmed phthisis, — entirely eradicated by a removal to malarious districts; and that too, when the individuals have never suffered from an ague attack. It is not *over* medication that removes disease, but a judicious and prudent application of remedial agents.

This subject, — the influence of climate upon diseases, — especially the varied climate of our own country, has not, I am confident, received that attention from medical men which its importance demands. If, indeed, it be true, as some naturalists assert, that "the infinite variety of form, colour, constitution, and moral character, which the different nations, tribes, and races, present upon the surface of this globe, have been marked by the slow hand of time, through the instrumentality of *climate,*" what may not be expected from the same agent, in the cure of diseases, when the physical properties of climates, in their different localities, shall be thoroughly investigated, and their influence upon the human constitution, and their *modus operandi* upon diseases, shall be distinctly understood?

Art. IV. *Practical Observations on Ovarian Disease.* By G. S. Bedford, M.D., of New-York, Professor of Obstetric Medicine in the Albany Medical College, N. Y.

(Continued from Vol. I, page 294.)

In the October number of the *New-York Journal of Medicine and Surgery*, I furnished three cases of ovarian disease with remarks, and promised on a future occasion to allude more particularly to certain modes of treatment recommended by authors.

Professor Davis of the London University says, he "cannot pretend to recommend any medicine possessing an adequate curative power over ovarian dropsy. There is no known deobstruent which can be expected to demolish the immense fabrics of heterologous architecture, which constitute at once the genius and the material of the disease. We know of no greater deobstruent than mercury; but in no state of developement of this disease has mercury appeared to exert the slightest influence over this malady. The indications of treatment of encystic dropsical ovaries are, therefore, extremely few and simple; consisting first, in measures of judicious regulation of the general health, with a view to the retardation of progress of the developements incident to the disease; and secondly, in mitigation, by small bleedings; local rubefacients; tapping, when unavoidable; administering to the regular action of the bowels; the judicious use of opiates to conciliate sleep; and such mild tonics as may sustain the appetite, and mildly uphold the spirits until the end shall come."* I have done Professor Davis the justice to quote his own language; and it will at once be perceived that he proscribes all hope of doing anything more than simply palliating the disease after it is fairly established. He says nothing of the treatment recommended by *Barlow*, and appears to be unconscious of the brilliant success which has followed its vigorous employment. The opinion advanced by the learned Professor, that "there is no medicine possessing an adequate curative power over ovarian dropsy," is by no means in keeping with recorded facts,* nor is it sustained by the pathology of the disease itself. He is correct so far only as respects the advanced state of the malady, after extensive disorganization of the ovarium has occurred; but his views are utterly untenable when applied to the commencement of the disease.

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* Principles and Practice of Obstetric Medicine, etc. By David D. Davis, M.D., F. R. S. Professor of Mid. in the London University, Part xxxiv. p. 768.

Professor Burns holds the following language: "But I wish most distinctly to state my conviction, that beyond the object of palliating symptoms, the medical art can, at present, not extend; and it argues, in so far as our skill at least as yet goes, a most unsupported confidence in the power of physic to propose more."†

It is manifest that there is no difference of opinion on the subject between these two distinguished authors. And it is unfortunate for science that *dicta* so rigid should have proceeded from sources eminently high, and calculated, therefore, to carry corresponding weight and influence. He who reads the observations of either of these writers on the treatment of ovarian disease, must suffer his own judgement to decide how far their views are sustained by the written testimony of authors, who have demonstrated practically that the malady in question *is* within the control of the healing art. With me, theory must ever yield to the evidences of demonstration; and it is by such concessions alone that we can entertain the hope of accumulating medical truths. Our science has been long and severely afflicted by individual predilection for opinion; and we have too often suffered our minds to be dazzled, and our reason to become perverted by the fascinations of the practised sophist.

Dr. James Hamilton, the able Professor of Midwifery in the University of Edinburgh says, "that there are many cases of enlarged ovary, which admit only of palliative treatment, he readily concedes; but he can prove by many living witnesses, that cases now and then occur where the disease is curable, not merely in its early stage, but after it has attained such a magnitude as to require the operation of tapping." Here, again, we have the testimony of a competent practitioner in favour of the curability of the disease, and whilst we cheerfully give our assent to what he says in reference to the "early stage," we yet question the infallibility which he claims for the treatment after the disease has attained such a magnitude as to require the operation of tapping.

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* See Transactions of the Provincial Med. and Surg. Association, vol. iv. London and Worcester, 1836, 8vo, pp. 77.

† Principles of Midwifery, by John Burns.

Dr. Hamilton* informs us that, knowing the effects of percussion and of pressure in chronic rheumatism, and also the influence of the continued use of the muriate of lime in indolent glandular swellings, he was induced to have recourse to these several means, as being at all events perfectly safe. He advised that moderate and equable pressure should be made by means of a suitable bandage; that the enlarged part be subjected twice a day to gentle percussion, and that a course of small doses of muriate of lime be continued for at least several months. If the ovary were painful or tender when pressed upon, he recommended, in addition to the above means, the daily use of the warm bath. This plan of treatment, he says, has been much more successful than he had anticipated; and in seven cases in which it has been tried, the enlargement has so completely subsided, that it is no longer tangible.

Entertaining as we do the highest respect for the professional worth of Dr. Hamilton, we cannot for a moment permit ourselves to doubt the honesty of his convictions; but, at the same time, we are disposed to express surprise at the extraordinary efficacy of treatment, which seems to us so inadequate to the purpose for which it is intended.

In speaking of diseased ovary, the sagacious and philosophic Gooch says,† "the general object of treatment is to excite the action of the bowels and kidneys by hydragogue purgatives, or by diuretics and mercury; these means, however, produce but trifling diminution of the tumour, and often disorder the general health more than they reduce the size of the abdomen." In the latter part of this opinion we decidedly concur; and if it were more generally adopted, much unnecessary distress would often be spared the patient; and the mind of the physician might be profitably turned to the consideration of other modes of treatment more in accordance with the nature and essence of the disease itself.

Our own views with regard to the curability of ovarian enlargement, and the particular circumstances under which this desirable result is most likely to be accomplished, together with the kind of treatment to be adopted, have been fully detailed in the essay published in the last number of this Journal. We shall now proceed to another question, which involves a vast deal of practical interest. I allude to the operation of tapping as a means of palliating the symptoms consequent upon a distended ovary. After all treatment has failed to arrest the progress of the malady, and the accumulation of fluid is such as to call for temporary relief, we are then obliged to resort to the trochar as the only means left of evacuating the contents of the tumour. With regard to the danger of tapping, there is a difference of opinion among authors; and Delpech announces in the most unqualified manner his repugnance to the operation. No one will attempt to deny that serious consequences may ensue from tapping the ovary, — and it requires great judgement on the part of the medical attendant to avoid fatal error on this subject. Boivin and Dugès cite two instances in which the individuals perished shortly after the operation; one died, on the following day, of internal hemorrhage; the other sunk from peritonitis. This result will not appear surprising, if it be recollected that the ovarium in a state of disease is supplied with numerous and large blood-vessels; and that it is not only itself susceptible of inflammation, but that this latter has a tendency to extend to the adjoining viscera.

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* Hamilton's Practical Observations.

† Gooch's Midwifery.

As a general rule, the operation should not be performed early, for every successive tapping is followed by a more rapid and copious secretion of fluid. It is important, before introducing the trochar, to ascertain which ovary is affected, or whether both are in a state of disease; and, in all instances, the instrument must enter on the side corresponding with the diseased ovary; for it sometimes happens that the uterus is made to ascend with the tumour, and by neglecting the direction just given, this viscus would be liable to be wounded. The amount of fluid drawn off under certain circumstances is almost beyond credibility. It is stated that Mr. Martineau * had a patient whom he tapped eighty times, and drew off 6831 pints, or thirteen hogsheads. As this case has become a matter of record, it is not out

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* See Phil. Trans. vol. lxxiv. p. 471.

of place to mention it, and the reader can admit or reject it as his conviction may direct. It has been recommended to inject the cyst after evacuating the fluid, as is done for the permanent cure of hydrocele; and others again have suggested the advantage of converting the wound into a fistulous opening, so that the walls of the sac may become very gradually inflamed, and thus, by reducing it to a small size, radically overcome the disease. With regard to the use of injections, it appears to us not only useless, but positively dangerous practice. Acute inflammation, pervading a surface so extensive as must necessarily be the walls of an ovarium from which have just been drawn several quarts of fluid, cannot exist without subjecting the patient to imminent peril. The success following the treatment by fistula has not been such as to justify its general adoption. Three patients were treated according to this plan by Dr. Key; two died from the effects of inflammation and excessive suppuration; the other was cured.

It occasionally occurs that the fluid contained in the ovary is so gelatinous or viscid as to render the use of the trochar unavailing. Delaporte,* who had a case of this kind, extracted through an incision of from four to five inches in length, sixty-seven pints of thick humour. The patient, however, survived the operation but thirteen days; and it was afterwards discovered that there were other cysts filled with the same substance, and that a portion of it had passed into the abdomen through the ulcerations of the principle sac.

Some authors have seriously urged the propriety of tapping the ovarium through the vagina before it has ascended beyond the upper strait of the pelvis. Such practice cannot be justified; and the objections to it are too obvious to require further comment. There is one circumstance only in which the early employment of the trochar would be at all proper. When the patient is in labour, and the tumour, situated within the pelvic excavation, offers a physical impediment to delivery, it might then be necessary to diminish its size by evacuating its contents, *provided it were first positively ascertained that the tumour contained fluid.* Baudelocque and Denman have both cited cases in which this alternative was had recourse to.

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* Mém. de l'Ac. de Chir. tome 11, p. 452.

It now remains for us to examine the last point connected with this subject — the extirpation of the ovarium. Authors of high name have urged, not only the propriety, but the absolute necessity of this operation; and hence the books, and, occasionally, the daily journals, furnish us with cases in which the bloody business of opening the abdomen and removing the ovary, has been accomplished by some bold and imperturbed practitioner of surgery. For a long time it was zealously maintained, that to extirpate the ovary successfully was a thing utterly impracticable. This opinion, however, has been abandoned; for there are several well authenticated instances in which patients have survived the operation. In the memoirs of the Royal Academy of Medicine,* Laumonier inserted the case of an indurated ovary which had been successfully removed; and surgeons have since been much encouraged to repeat the operation. Dr. M'Dewell of Kentucky was the first to undertake the removal of the ovary in America; and the operation has subsequently been performed by several of our surgeons. The late Dr. Nathan Smith of Connecticut, and Dr. Alban Gold-Smith, now of this city, have both operated with success. A case is reported by the latter in the North American Medical and Surgical Journal. Dr. David L. Rogers has also operated, and the patient recovered. That the operation has been often heedlessly undertaken, and the forfeiture of human life the dread penalty, will not be questioned by any one at all familiar with the records of cases as reported by different authors. Two years have not passed by, since the citizens of New-York were greatly excited by the details of a case, as furnished in the columns of the New-York Sun. A most extraordinary and fulsome description was given of an operation performed in this city, upon an unfortunate woman who, it was alleged, had suffered for years from enlarged ovary. The poor creature survived the operation but a few days. Within the last twelve months a similar result has occurred in the practice of one of our physicians. If every case, in which an attempt to remove the ovary had proved fatal, were published, it would startle the humane in the profession, and call forth severe invectives against those who sport with the lives of their fellow-creatures. I do not wish to assert that this operation has never been performed with justifiable motives, but I do contend that it has frequently been attempted without due consideration. Look, for example, at the published cases — analyse the facts as put forth, and then see if the safety of the patient demanded the appalling alternative. We have already stated that a diseased ovary may remain for years stationary, and we have shown that, on this account, the prognosis is by no means easy. And, again, experience has demonstrated the curability of the disease when treated in its early stage. Assuredly, then, these two facts are sufficient to oppose any attempt to remove the ovary before it has become much enlarged. Another objection perfectly valid is this — that in its incipient state, it is sometimes exceedingly difficult to distinguish diseased ovary from other enlargements. When the disease has progressed so far as to cause considerable developement of the ovarium, the morbid adhesions, which almost always connect this body with adjacent organs, form a strong argument against the operation in the advanced stage. Lizars, Diffenbach,* Granville, and Martini de Lubeck, all mention cases in which, after opening the abdomen, they were compelled to renounce the operation in consequence of the numerous external adhesions of the cyst. In some instances, the patients recovered; — whilst in others they sunk from inflammation.

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* Annèe, 1782, p. 296.

In the popular eye, the extirpation of an ovary is the *chef d'œuvre* of surgery; and he who has hardihood enough to thrust his scalpel into the abdomen of his confiding patient, amid crowds of admiring witnesses, and extract an immense tumour, is looked upon by the *vulgus populus* as having attained the perfection of human skill, — his name is gazetted with the details of the sanguinary deed, and every female who may be so unfortunate as to labour under the disease is hunted up, and, by false assurances, induced to offer her life a sacrifice to the burning desire which some people have for *cutting*. I mean not, intentionally, to utter a word which would give pain to the feelings of any individual living; nor would I wish to be wanting in reverence to the memory of the dead. But as an humble member of the profession, I claim it a prerogative to use every effort on my part to check a practice which, if promiscuously continued as it has heretofore been, cannot but prove prodigally destructive of human life, and, at the same time, discreditable to the art, the dignity and honour of which it becomes us to sustain. The love of fame is neither, in law or morals, a proper motive for curtailing earthly existence, and we cease to carry out the great objects of our science when, in order to obtain ephemeral notoriety, we place in peril the life of our neighbour. The first duty of the surgeon who amputates a limb, or performs any operation involving the future safety or comfort of his patient, is to demonstrate the *necessity* of what he has done; the fact of the patient having escaped death, or being blessed with a remarkably handsome surgical stump, is no evidence of such necessity. The powers of the human system in resisting invasions of both the surgeon and physician are wonderful; and the abstract fact of a female having recovered after the extirpation of an ovary, does not, by any means, prove that she would have died if the operation had not been performed. But, on the other hand, cases are recorded in which death ensued a few days, and, in some instances, a few hours after the operation; and yet there is almost positive certainty, judging from the symptoms of the disease as detailed by authors, that the individuals might have survived for years with simple palliative treatment, and thus lived a blessing to their family and friends.

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* Archives de Méd. tome xiv. p. 589.

In speaking of the extirpation of the ovary by the late Dr. M'Dowell of Kentucky, the writer says,* "His first case was in December, 1809. The female was affected with labour pains; and her case was taken by two physicians for pregnancy. On examination, however, *per vaginam*, Dr. M'Dowell found nothing in the uterus; and concluded, from consideration, that it was an enlarged ovarium. The incision was made parallel to the rectus abdominis, at the distance of about three inches, and was nine inches long." There is not one word in the above extract which would, in any way, indicate the propriety of operating; and it is unfortunate that something more is not said to satisfy the mind of the reader that the only alternative for the patient was to submit to the removal of the tumour, thus subjecting her life to most hazardous contingencies. The writer proceeds, "In the next case, the tumour was immovably fixed; and was found adhering to the fundus uteri and to the bladder. Having opened the abdomen, however, Dr. M'Dowell made a small incision into the tumour, and removed a large amount of gelatinous matter and blood. He then closed the external wound, and the woman apparently recovered." It would seem, in this case, that the operation was one rather of an exploring nature. Why did Dr. M'Dowell make "a small incision into the tumour?" Was it with a view to evacuate its fluid contents, or was it for some other object? Would it not have been more judicious, if the size of the ovarium required it, to introduce the trochar in the ordinary manner, and thus spare the patient the danger necessarily connected with "opening the abdomen?" We see nothing here to warrant the attempt made to extract the tumour.

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* Eclectic Repertory, vol. vii. p. 242, and vol. ix. p. 546.

"In April, 1818, the same practitioner saw another negro woman, whom he tapped four times, removing, at each time, a large portion of a gelatinous fluid. He found a firm substance of considerable size, with the probe, which he had introduced to break down the gelatinous masses which presented themselves in the discharge. Finding no marks of pregnancy, *per vaginam*, he concluded it to be an enlarged ovary. He operated by an incision in the left side. The tumour adhered, by long and slender attachments, to several of the adjacent parts. The patient died on the third day, having been affected with violent pain in the abdomen, and obstinate vomiting. The peritoneum was found violently and extensively inflamed." I should be gratified if I could recognise, in this instance, the slightest ground for an operation, which so speedily terminated the life of the unhappy negress.

Dr. Alban Gold-Smith operated in 1823, and makes the following statement: "he visited his patient and found that she had a large tumour, which seemed to fill the whole abdomen, but was somewhat more elevated on the right side. Upon examination, *per vaginam*, the uterus appeared to be in its natural position. She complained of bearing down pains, whenever she was in an erect posture; and these were always worse during her menstrual periods. She was about thirty years of age, and had borne two children. Her general health was tolerably good. Seeing, however, that death must inevitably ensue, if the tumour continued to increase in size, I informed her that the only means of relief was by the extirpation of the tumour; to which she readily consented." It is true Dr. Gold-Smith says, "death must inevitably have ensued, if the tumour continued to increase in size;" but yet he has not mentioned any specific facts to show that life was endangered; and it would have been highly proper to have attempted the diminution of the tumour by evacuating the fluid before resorting to an operation, which is always one of great danger. This case, however, proved entirely successful in the hands of this clever surgeon.

Professor Lizars commenced the excision of the ovary in four cases, and without detailing the circumstances of each, it will suffice to allude to two only of his operations. The high reputation of Mr. Lizars necessarily associates much respect with his opinion; and having most signally failed in two instances in which he operated, it is fair to infer that his want of success will have a salutary influence in admonishing practitioners of caution.

"Wednesday, 24th October, 1823, was the day appointed for the operation. A longitudinal incision was made parallel with, and on the left side of the linea alba, about two inches from the ensiform cartilage to the crista of the os pubis, through the skin and cellular substance, when the peritoneum appeared, the recti muscles being separated by the distension consequent on the present disease and former pregnancy. After making a small incision through the peritoneum, I proceeded to examine the tumour, *when to my astonishment I could find none.* Let the reader bear in memory that it is the Professor of Surgery in the Edinburgh Royal College of Surgeons, who speaks, and tells us that after determining on the propriety of extirpating the ovary, it is to be presumed after a full examination, he discovered on opening the abdomen, that he had been mistaken, and that no tumour existed!

The following is the history of the second case, operated on by Professor Lizars: "A longitudinal incision was made through the integuments from the sternum to the pubis; at the sternal extremity the peritoneum was wounded, and one finger of the left hand was here introduced, then another, and the peritoneum laid open to the pubes; the same was done upwards to the sternum, where a multiplicity of convoluted vessels presented themselves of various magnitude, from the thickness of a finger to that of a crow's quill. At first I thought them the intestines, for they appeared extremely fleshy; then I imagined them the blood-vessels of a placenta, which they still more resembled; indeed, such was their resemblance to the vessels of that organ, that the same idea struck one and all of the gentlemen present. On minute examination, however, they were found to be the blood-vessels of the omentum majus enormously enlarged, running on the surface and into the substance of the tumour, which appeared an enlarged ovarium. Finding that it was impracticable either to dissect these vessels from the surface of the tumour, or to secure them, in consequence of their great number, *I abandoned* the operation."

Sufficient, I hope, has now been said to admonish the professional reader, of the importance of caution in sanctioning, either by his presence or counsel, an operation, which has proved unsuccessful in the hands of eminent men, and against which can be brought numerous and valid objections.

HOSPITAL REPORTS.

Cases of Stricture of the Urethra treated at the New-York Hospital, with General Remarks on the Treatment of that Disease, (being part of an Essay read before the New-York Medical and Surgical Society, April, 1839.) By ALFRED C. POST, M.D., one of the Surgeons of the New-York Hospital, and Lecturer on Anatomy.

Case I.—Inflammatory Stricture.—SAMUEL MAGNUS, seaman, born in Sweden, aged 27 years; admitted into the New-York Hospital, March 19th, 1839.

FOURTEEN days before, while he was at sea, without any obvious cause, unless it were exposure to cold and wet weather, he began to feel pain in the perinæum, and the stream of urine became diminished in size. Eight days afterwards, there was entire retention of urine, which continued one night and half of the following day, attended with severe pain and the discharge of a bloody fluid from the urethra. A medical gentleman on board of the ship prescribed spirit of nitre and cathartic medicines, which gave him some relief. He was confined to his berth on account of the severity of the pain.

He said that he had never had connection with a female, nor had experienced any previous difficulty in voiding his urine.

When he was admitted into the hospital, he complained of pain in the perinæum, and passed his urine in a small stream, occasionally mingled with a little blood: he passed about a gill at each evacuation. A warm bath was administered; aperient medicines; tobacco fomentations to the perinæum.

March 20th. Medicine has operated freely; pulse frequent and somewhat harder than natural; tongue covered with white fur in middle, but clean at edges.

21st. Ordered effervesing draughts every three hours.

25th. Febrile symptoms have subsided; secretion of urine has continued to improve since the time of his admission. Passed a large bougie to-day into the bladder; it occasioned some pain, but it seemed to encounter no obstruction in its course. After that time there was no difficulty in retaining the urine for the usual period, and when it was voided, it passed in a good stream.

Case II.—Permanent stricture, complicated with an irritable condition of the urethra, and with frequent spasms.—Enoch Cook, sea captain, aged 43 years, admitted into New-York Hospital on the 26th September, 1837.

He had two strictures of the urethra, one at about four inches from the orifice, and the other at about seven inches. The patient had had two attacks of gonorrhœa, one in 1814, and the other in 1816. He first discovered a stricture in 1821, a few days after having fallen from a height of about two feet with his perinæum against the back of a chair, after which he passed bloody urine. The perinæum became swollen, and the urine was retained for twelve hours, until it was drawn off with a catheter; this occurred at Rio Janeiro. Forty days afterwards he arrived at Valparaiso, where he applied to a surgeon, who directed a blister to his perinæum, by means of which he was very much relieved. From that time, he passed his urine without great difficulty, but in a contracted stream, until 1827, when he was in New-Orleans: at this time, a painful swelling of the size of a hickory nut occurred in the perinæum, at the seat of the original injury, and the difficulty of passing the urine was greatly increased. He does not recollect that there was any obvious cause for this swelling. He applied to a surgeon who partially relieved him, but he has no distinct recollection of the remedies which he employed. He then sailed for Cowes, and on his arrival there put himself under the care of a surgeon, who treated him, for about twenty days, by the introduction of bougies, one of which, of a very small size, he passed into the bladder, by which great relief was given. Since that time no remedies had been employed until the admission into the New-York Hospital, at which time the difficulty of passing urine had been increasing for about a year. When he was admitted, he had had entire retention for about twelve hours: soon after his admission, he was partially relieved by a warm bath and opiate medicines. Dr. Buck, who was then in attendance, commenced the introduction of bougies, which he could not, however, succeed in passing beyond the membranous part of the urethra: the size of the largest instrument, which he introduced was No. 7. The passage of the urine was much improved, when the patient left the house for two days, at the end of which time he returned with a great increase of irritation. After that time he had several attacks of entire retention of urine, which continued for a few hours, and were then relieved by warm baths and fomentations, the internal use of muriated tincture of iron, and the introduction of bougies, none of which entered the bladder. Soon after his first admission into the hospital, an abscess formed in the scrotum, which was opened with a lancet, and discharged a quantity of healthy pus. The abscess healed in about a month. A number of times he passed large quantities of puriform matter with his urine.

Jan. 29th, 1838. About four weeks ago, a bougie armed with nitrate of silver was passed down to the stricture in the membranous part of the urethra;

but in consequence of the irritation which it excited in the canal it was not repeated. During the same period, the introduction of bougies has been discontinued, and a soothing treatment has been pursued, under which the difficulty of passing the urine has diminished, and the discharge has been, for the most part, free from puriform matter. The prostate is somewhat enlarged, and on the left side, tender to the touch. He has been subject during the treatment, to occasional chills followed by fever, but not pursuing any regular course.

February 22d. Discharged at his own request. He passes his urine without difficulty, and propels it to a distance of several inches from his body.

Case III.—Permanent stricture, obstinately resisting treatment for a time, and then suddenly yielding to dilatation.

—JOHN CARVER, aged 54 years, seaman, born in France, was admitted into the New-York Hospital on the 19th January, 1839.

THIS man had a painful swelling of both testicles, which he attributed to a contusion occasioned by a fall; the patient was also found to be affected with the usual symptoms of stricture of the urethra, and on introducing a bougie I ascertained the existence of a firm stricture, the distance of which from the orifice of the urethra was omitted to be noted in the record. About four years before his admission, he was affected with gonorrhœa for the first time, for which he took medicine which arrested the discharge; about three weeks afterwards one of the testicles began to enlarge, and the urine at the same time flowed in a small stream, and its passage was attended with scalding. He made some cooling application, and soon after, the discharge from the urethra was restored. The gonorrhœal discharge was eventually arrested, and he passed his water more freely, but still in a diminished stream; and from that time he has always had symptoms of stricture. About three months before his admission, while he was under treatment for a fresh attack of gonorrhœa in the hospital at Havre, the discharge of urine became more obstructed, so that it flowed only by drops. He was partially relieved by the treatment which was pursued in the hospital at Havre. He did not speak of the stricture at the time of his admission into the New-York Hospital, and its existence was not detected until some time afterwards. On examination, considerable soreness was found in the course of the urethra.

Feb. 9th. A straight steel bougie, less than No. 1 at the point, and about No. 2 at the base, was introduced to the depth of 7⅞ inches: it occasioned some pain, and its extremity was firmly embraced by the stricture. An attempt was made, on withdrawing the straight instrument, to introduce a curved steel bougie, No. 1, but it was arrested by the stricture.

10th. Pain and tenderness in the perinæum, with some fever. Ordered a cathartic of calomel and jalap; also spiritus mindereri with small doses of tartarized antimony.

12th. Patient had chills last night: he has a foul tongue this morning. Ordered an emetic of ipecacuanha.

13th. Febrile symptoms relieved. Passed the same straight bougie as before to the depth of 7¼ inches.

15th. Some urine was observed to flow through a minute fistulous opening in the scrotum, in which situation he had a seton passed about ten months ago.

16th. Passed the straight bougie to the depth of 8 inches: on withdrawing it, a curved steel bougie, No. 1, was passed into the bladder.

20th. Curved bougie, No. 1, again introduced into the bladder.

21st. Unsuccessful attempt to pass curved steel bougie No. 2: it was arrested near the posterior extremity of the urethra, and it occasioned much pain.

March 3d. A straight steel bougie, of the same size as before, was passed to the depth of 7½ inches, but it occasioned severe pain.

9th. I passed an elastic catheter, No. 8, down to the stricture for the purpose of ascertaining more accurately its depth, and to my great surprise, it went on into the bladder.

11th. Passed No. 8, and on withdrawing it, No. 10 into the bladder. On withdrawing the last instrument, the patient passed a full stream of water. His countenance beamed with joy, he rubbed his hands and danced to express his delight, not having experienced such relief for more than a year past.

13th. Introduced a bellied bougie, No. 12, in its largest part, to the depth of 6½ inches. It caused considerable irritation, and on withdrawing it an ineffectual attempt was made to pass No. 10.

15th. No. 8 was passed into the bladder.

18th. No. 9 was introduced, and on withdrawing it, No. 10: they both passed on into the bladder.

23d. No. 10 was introduced, and after it No. 11.

25th. No. 11 again introduced.

27th. No. 11 again into the bladder.

April 1st. No. 12 was introduced into the bladder, and the patient was able without assistance to introduce the instrument.

3d. Patient introduces No. 12 with ease.

4th. Discharged cured.

If the patient continue to pass bougies as he has been directed to do, it is probable that the cure will be permanent.

Case IV.—Permanent stricture.—AUGUSTUS WILLIAMS, seaman, born in Sweden, aged 28 years, admitted into the New-York Hospital, January 11th, 1839.

ABOUT three months before he came to the hospital, he had an attack of gonorrhœa three days after connection, while on a voyage from Boston to some port in Virginia: he took some medicines, but without benefit. He then sailed for Liverpool, where he took balsam of copaiba and spirit of nitre, by which the discharge was arrested. About two months before his admission into the

New-York Hospital, while he was at Liverpool, he first experienced a difficulty in making water, attended with pain: the urine began to flow in a small stream, and afterwards came only by drops. He voided about a gill at each evacuation. The pain and difficulty increased, so that he was under the necessity of voiding urine every few minutes, by which he was entirely prevented from enjoying any sound sleep during the night. This was his condition when he entered the hospital.

A warm bath was administered, a cathartic medicine, and small doses of tartarized antimony.

Jan. 17th. An ineffectual attempt was made to introduce a bougie No. 1; it caused much irritation.

24th. A solution of nitrate of silver, 2 grains to the ounce of water, was ordered to be injected into the urethra, in order to diminish its irritability.

February 6th. A small straight bougie, conical towards the point, has been introduced several times through the stricture. To-day I succeeded in introducing a curved steel bougie No. 1 into the bladder: it was left in ten minutes.

9th. Introduced bougie as before.

13th. Same instrument again introduced, stricture feels rough and hard as the instrument passes through.

16th. Introduced No. 2.

21st. No. 3 passed into the bladder with ease. He now passes his urine pretty freely, and is able to retain it for some hours.

27th. Passed No. 4 into the bladder.

March 6th. Introduced No. 5.

9th. Passed No. 8 to the depth of 4¾ inches, where it was arrested by a stricture; No. 5 was then passed into the bladder and allowed to remain half an hour.

12th. Treatment interrupted by febrile symptoms, with pain in back, &c. for which sp. Minderer. and ant. tart. in small doses were administered.

15th. Febrile symptoms relieved; passed No. 5 into the bladder.

16th. Passed into the bladder No. 5, and on withdrawing it, No. 6.

20th. Passed No 6, and after it, No. 7.

25th. Passed No. 8.

27th. Complains of pain at neck of bladder after making water. Passed No 8 into the bladder. Ordered decoction of uva ursi with spt. nitr.

30th. Passed No 8 with ease.

The subsequent part of the treatment was under the direction of Dr. Hoffman.

April 9th. A curved steel bougie No 11, was passed into the bladder with ease, with the exception of a slight difficulty which existed at the meatus. The orifice of the urethra was not sufficiently large to admit an instrument larger than No. 11. Discharged cured.

In this case, the relief was so great when No. 3 was passed through the stricture, that the patient regarded himself as cured; and it was with great difficulty that I could persuade him to remain under treatment a longer time.

Case V.—*Permanent stricture very slowly yielding to Dilatation.*—Nathaniel Hadley, seaman, born in Massachusetts, aged 34 years, admitted into the New-York Hospital, on the 20th October, 1838, for secondary syphilis, which was treated with success with the ordinary remedies.

The existence of a stricture in the urethra was not made known for several weeks after he had entered the hospital. Five years before his admission, he first had gonorrhœa, which continued for ten months before it was arrested by medical treatment. About two months after the cure of gonorrhœa, he had difficulty in passing his urine, which came in a small twisted stream, attended with scalding; the difficulty gradually increased until entire retention came on. He was then treated by a surgeon, who introduced instruments, and enabled him to pass his urine as freely as ever. About eighteen months before his admission, he again had symptoms of stricture, which resulted in retention of urine. This attack was brought on by exposure to cold; he took medicines, and introduced a bougie himself, by which he was again relieved, and the urine flowed in a full stream. Severe symptoms of stricture have again manifested themselves since the time of his admission into the hospital.

Jan. 17th, 1839. Introduced an exploring bougie, and found a stricture at the distance of five inches from the orifice of the urethra. Attempted to pass a conical wax bougie, No. 3, at the point; it entered the stricture a very short distance.

Feb. 1st. The urethra has been so irritable as greatly to retard the treatment. Made to-day an attempt to introduce a very small elastic bougie, and afterwards a straight metallic instrument; but neither of them passed through the stricture.

4th. Passed the smallest straight conical steel bougie partly through the stricture.

6th. Passed same instrument into the stricture as before.

9th. Passed the same instrument through the first stricture, but it was arrested by a second, which firmly embraced its point at a distance of 6¾ inches from the meatus.

13th. Passed the same instrument to the depth of 8½ inches.

14th. Passed the straight bougie to the depth of 9 inches, and on withdrawing it, a curved steel bougie No. 1, into the bladder.

20th. Curved bougie No. 1 again introduced, and left in the canal fifteen minutes.

21st. Passed curved steel bougie No. 2 to the depth of 7¼ inches.

27th. Introduced small straight bougie.

March 3d. Again passed same instrument.

6th. Wax bougie No. 8, passed to the depth of 5¾ inches, where it was arrested by a stricture. Lallemand's porte-caustic was afterwards passed down the stricture, and nitrate of silver applied to its internal surface.

9th. An elastic bougie No. 8, was passed through the first stricture, and arrested by another, at the depth of 6¼ inches from the meatus.

11th. A straight conical steel bougie, No. 6 at the base, was introduced to the depth of 8 inches; and on withdrawing it a curved steel bougie, No. 3, was passed into the bladder.

13th. The curved bougie, No. 3, was again passed into the bladder; but notwithstanding the introduction of the instrument, the urine only comes away by drops.

16th. Passed into bladder curved steel bougie, No. 3, and after it, No. 4.

18th. Curved metallic bougie, No. 5, passed into the bladder with considerable ease.

20th. Stream of urine enlarged. I could not succeed to-day in introducing No. 5. The attempt caused considerable irritation. Ordered tobacco fomentations to the perinæum.

21st. Passed No. 4 into the bladder.

23d. Introduced Lallemand's caustic apparatus to the depth of 6 inches, and attempted to introduce the caustic within the stricture; but it entered only a very short distance. The application was followed by pain which lasted for two hours.

25th. Passed No. 9 to the depth of 5½ inches; after it, conical straight bougie No. 6 to the depth of 8¼ inches with considerable difficulty; on removing it, passed curved steel bougie No. 5 to the depth of 6¼ inches.

27th. No. 5 passed into the bladder with difficulty and pain.

The subsequent part of the treatment was during the attendance of Dr. Hoffmann.

April 3d. Conical bougie, No. 6, was passed to the depth of 7 inches; afterwards a wax bougie No. 3, which was allowed to remain in the canal fifteen minutes.

9th. Metallic bougie, No. 9, was passed into the bladder; stream of urine much improved.

10th. A curved steel bougie, No. 11, was introduced with ease into the bladder, and on withdrawing it, No. 12 was introduced, and left in half an hour. The stream of urine continues twisted, and is about two-thirds of the natural size.

12th. No. 12 passes with ease into the bladder.

16th. No. 12 has been passed daily into the bladder. The patient is able to pass it himself. Still the stream of urine is not as good as might be expected.

26th. For the last three days, he has not been able to introduce an instrument larger than 11 without pain and irritation.

The orifice of the urethra seems somewhat contracted. He passes No. 11 daily without pain. The stream of urine is nearly natural, and he is able to retain his water as long as he could before he became affected with stricture.

This case is remarkable not only on account of the stricture yielding so slowly to dilatation, but also on account of the long time which elapsed, even after the stricture began to be dilated, before a decided improvement occurred in the passage of the urine. In this respect, it contrasts remarkably with the case of Williams, who experienced such decided relief when No. 3 was passed into the bladder, that he considered himself to be cured. This difference I am inclined to attribute to a greater irritability of the urethra in the case of Hadley, occasioning spasmodic action, whenever an attempt was made to evacuate the bladder.

Case VI.—Permanent Stricture, with retention of Urine. WILLIAM BLACKLEY, seaman, born in England, aged 28 years, admitted Jan. 24th, 1838.

A SHORT time before his admission, he had suffered from an attack of intermittent fever, for which he had been treated in one of the medical wards of the hospital. A number of years before his admission, he received a contusion in the hypogastric region, which was followed by a retention of urine of short duration. He had no permanent difficulty in passing his urine until 12 months before his admission, when he first perceived the stream to be diminished in size and bifurcated; he was also troubled with frequent desire to void his urine. During the three years which preceded his admission, he had several attacks of gonorrhœa. The symptoms of stricture became more severe from the time when they first appeared, until the period of the patient's admission into the hospital, when he had complete retention of urine, attended with extreme suffering. By means of warm baths and other soothing remedies, he was enabled, after twenty-four hours, to pass a small quantity of urine. The stream was at first exceedingly small; but after a time it increased somewhat in size, although there was still much difficulty in voiding it.

About the middle of February, I passed a steel bougie, No. 1, with some difficulty into the bladder. Two strictures were encountered, one about three inches, the other about four inches from the orifice of the urethra. After about a week, a steel bougie, No. 3, was passed into the bladder. On the 8th and 21st March, nitrate of silver was applied to the strictures. On the 22d a steel bougie, No. 4, was introduced into the bladder and retained an hour.

23d. The patient makes water more freely. During the day time he is able to retain his urine six hours, but is obliged to pass it more frequently at night.

26th. No. 4 introduced again with more ease than before.

29th. The patient is feverish, with frequent pulse, furred tongue, and great difficulty in voiding his urine, which comes away by drops, attended with severe scalding. I was unable to pass the smallest bougie through the stricture. Ordered an eccoprotic mixture to be followed by antimonial solution.

30th. Makes his water with more ease. I succeeded in passing a steel bougie, No. 2, into the bladder.

April 3d. Introduced No. 4.

19th. A gradual improvement has taken place since the last report. Cauterized the stricture to-day with nitrate of silver.

24th. The action of the caustic occasioned great irritation and a paroxysm of fever, with violent pain in the bowels. He was relieved by warm fomentations, sinapisms, &c.

May 7th. The patient was this day discharged, passing his urine pretty freely: a bougie, No. 3, had been daily introduced for a number of days previously.

Case VII. — *Permanent Stricture.*[*] — JOHN KELLY, seaman, born in Ireland, aged 42 years, admitted March 17th, 1838, with stricture of the urethra, and complete retention of urine.

CONSTITUTION much vitiated by intemperance. At the age of 29, in Dublin, he contracted a severe gonorrhœa, which was cured by the usual remedies. During the same year he contracted the disease a second time; this attack was very obstinate. In the latter part of the same year, he had some difficulty in passing his urine, the stream being diminished in size and bifurcated. The disease was neglected, the difficulty in evacuating the bladder increased, and the attempt was attended with pain and straining, so that he often passed fœces involuntarily. The desire to pass urine became very urgent, and it required 15 minutes to evacuate his bladder. At last complete retention ensued; he was taken to an hospital in Dublin, where he was relieved, but he did not remain long enough to obtain a complete cure. Since the first attack, he had never been entirely free from symptoms of stricture, and he has several times had retention of urine. When he was admitted into the New-York Hospital, he had been unable to pass any urine for 12 hours. A catheter, No. 3, was introduced into the bladder, and the urine drawn off. Warm bath, emollient enemata, and poultices to the perinæum.

20th. An impression of the stricture was taken by means of Ducamp's exploring bougie — the distance from the orifice was about four inches. On the following day, the interior of the stricture was cauterized by means of Lallemand's apparatus. It occasioned considerable pain and burning, followed by chills and a paroxysm of fever, with violent headache.

22d. The patient passes his urine more freely, and without scalding: previously to passing it, he is directed to inject sweet oil into the urethra. An attempt was made again to cauterize the constricted portion of the urethra, but the caustic-holder could not be inserted within the stricture.

23d. Increased scalding, and more frequent necessity for passing the urine.

May 1st. Since last report, small bougies have been introduced, and a gradual improvement has taken place; the patient passes his urine in a pretty full stream, and without pain. Discharged at his own request.

May 6th. Received again in a state of intoxication, and with complete retention of urine. An attempt was made to introduce an elastic catheter, but it was arrested by the stricture; on withdrawing it, the patient passed about a quart of urine.

7th. Bougie, No. 1, passed into the bladder: also an impression taken of the stricture at four inches from the orifice by means of an exploring bougie.

12th. Nitrate of silver applied within the stricture. It caused considerable burning throughout the day. Sweet oil injected into the urethra, and the patient directed to take spirit of nitre, and to drink freely of flaxseed tea.

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[*] The following case was under my care but a short time, as the patient was admitted only about a fortnight before my term of attendance expired. The subsequent part of the treatment was under the direction of my colleague, Dr. Hoffman.

14th. Urine passed more freely; steel bougie, No. 1, introduced with some difficulty.

22d. Nitrate of silver again applied within the stricture.

After the last date, bougies were daily introduced, and their size gradually increased, until the time of his discharge, when he was enabled to pass a good stream of urine.

Case VIII.—Extensive Strictures of the Urethra.— Urinary Fistula. Operation by Incision. THOMAS SMITH, seaman, born in Peru, aged 33 years, admitted into the New-York Hospital, November 21st, 1837.

HE has had gonorrhœa three times; the last attack occurred eight years before his admission.

It continued three months, and was cured in the usual manner. In 1833, he was injured by the fall of a heavy piece of timber upon the hypogastric region, in consequence of which he was confined to his bed for a month. The scrotum and the right testicle became much enlarged immediately after the accident. About a month afterwards, the stream of urine began to diminish in size, and continued to do so until November, 1836, when it occasioned much inconvenience.

He was then received into a hospital at Rio Janeiro, where a small bougie was passed into the bladder, and, after a week, an unsuccessful attempt was made to pass it a second time. Daily attempts were afterwards made to introduce bougies, but without success. After he had been in the hospital two months, he was attacked with chills and fever, which continued for three weeks, during which time the scrotum became enormously distended and painful. Leeches were applied for a number of successive days, when two incisions were made into the scrotum, and blood and matter were evacuated. After a month had elapsed, during which time he had experienced little or no relief, two other incisions were made in front of the scrotum, through which urine was evacuated. He remained at the hospital, at Rio Janeiro, until Oct. 1837, during which time the scrotum was constantly covered with poultices, and a number of abscesses formed, which were successively opened. At the time when he left the hospital at Rio Janeiro, the urine flowed through four or five openings in the scrotum and perinæum, and but a small portion of it came through the natural channel. He sailed from Rio for New-York, where he arrived in November, and was admitted into the New-York Hospital on the 21st of that month. On examination, a stricture was found in the urethra, immediately anterior to the scrotum, through which a bougie, No. 2, was passed with difficulty. The instrument was arrested about an inch farther back by another stricture, through which the smallest bougie could not be made to pass. A fistulous opening was found at the anterior part of the scrotum, two others at the posterior part, and one in the perinæum: urine flowed through all these openings. There was great thickening and induration of the scrotum and perinæum. The patient was chiefly confined to his bed, and was greatly annoyed by the frequent desire to void his urine — the bladder being in an extremely irritable condition. On the 9th January, 1838, an incision was made about an inch in front of the anus, into a small deep abscess in the perinæum, into which a probe could be passed from the fistulous opening in front of the scrotum, but in consequence of the altered condition of the parts, the passage into the bladder could not be discovered. For a few days after the incision, a considerable part of the urine flowed through the wound. Partial relief was thus given for a time, and the induration of the scrotum diminished. The wound, however, soon contracted, and the urine resumed its course through the old fistulous channels. On the 8th February, I passed a catheter through the urethra, from its orifice as far as the stricture in front of the scrotum; I then made an incision upon the extremity of the instrument, and brought out its point through the wound. I then withdrew the catheter, and passed a probe into the constricted portion of the urethra, which I cut open, passing on the probe through a sinuous canal with indurated walls, extending through the whole length of the scrotum and part of the perinæum, constituting the only vestige of the corresponding portion of the urethra. The probe could be passed but a short distance at a time; it was then necessary to lay open the canal before the instrument could be introduced farther. In prosecuting the dissection, it was necessary to separate the testicles through the whole extent of the scrotum, cutting down to the depth of about two inches, through a hard mass of effused lymph. The canal of the urethra was thus, by a slow and cautious dissection, laid open from the anterior part of the scrotum as far back as the bulb. The passage into the bladder not being readily discovered, and the patient being much fatigued, the wound was loosely dressed with oiled lint, and the patient put to bed. On the following day, the wound was examined, and a small director passed into the bladder: this served as a guide for a silver catheter, No. 5, which was passed from the perinæum into the bladder, and left in for an hour; its place was then supplied by an elastic catheter of the same size, which was shortened and left in the bladder until the next day, when it was withdrawn, and a silver catheter, No. 6, passed through the penis into the bladder. After an hour, an elastic catheter of the same size was substituted for it. This instrument was left in the bladder until Monday, February 12th, (48 hours) when it was withdrawn, and an elastic catheter, No. 11, was introduced in its place. While the point of the instrument was in the bladder, its edges became much obstructed with mucus, and it was necessary to inject warm water, with a syringe, in order to remove the obstruction. Whenever the bladder was evacuated, its contraction upon the instrument seemed to cause much pain. On the 14th, the catheter was removed, and another, of the same size, was introduced. A gritty material, of a reddish colour, was deposited on the catheter. The patient was directed to take Carb. Soda, ʒ ss. three times a day.

24th. Since the last date, the catheter has been daily withdrawn and cleansed. The general health of the patient has improved, the irritability of the bladder has diminished, the secretion of mucus is less copious, and the wound is granulating and discharging healthy pus. Directed the wound to be dressed with lint spread with basilicon ointment, diluted with an equal quantity of lard.

March 21st. The patient continues to improve — the wound is contracting — the hardness and swelling of the scrotum and perinæum have, in a great measure subsided. The granulations have been occasionally touched with nitrate of silver. The patient can now retain his urine for four hours. The edges of the divided scrotum were to-day united by two sutures.

26th. He can retain his urine five hours. He has, during the last six weeks, taken Decoct. Sarsaparillæ Oj. daily.

April 18th. The sutures came away a few days after their insertion. The wound, then being rather pale, was dressed with an ointment composed of two grains of nitrate of silver with an ounce of lard. The opening in the perinæum has manifestly diminished, and the patient can retain his urine six or eight hours. The catheter is still kept constantly in the bladder, except that it is daily taken out to be cleansed. The wound seems to be slowly closing over the instrument. General health greatly improved.

22d. The wound in the scrotum and perinæum, which was originally four or five inches in length, is now reduced to three-fourths of an inch. Patient occasionally passes a little blood through the catheter. The urine corrodes the catheter so rapidly, that a new instrument is required every day or two. Ordered the wound to be dressed with an ointment composed of a drachm of Balsam Peruv. with an ounce of cerate.

30th. More pain and irritability about the parts — bloody urine. Directed kreasote to be applied to the sore with a camel's hair pencil. A grain of opium to be taken every six hours. Bowels to be kept open with sulphate of magnesia.

May 5th. The kreasote seemed to increase the irritation, and it was therefore discontinued.

12th. The catheter was withdrawn and left out for three hours: this was the first time, since the operation, that the instrument was left out longer than the time which was necessary for cleansing it.

20th. A silver catheter was substituted for the elastic one: it appears to be more comfortable to the patient, the surface of the elastic instrument being made rough by the corrosive action of the urine.

The wound has not entirely healed over the catheter, but has cicatrized under the instrument, in front of the scrotum, leaving about half an inch of the urethra in that situation obliterated.

26th. A short wax bougie was introduced through the wound into the bladder, and directed to be withdrawn when he wishes to make water.

June 2d. A short silver bougie was substituted for the wax instrument, and used in the same manner.

July 3d. Discharged. The wound is entirely healed, except at the point where the bougie is introduced. He passes his urine in a good stream through the artificial opening, and at natural intervals. His general health is good, and he is able to attend to his business. His only complaint is, that he does not like to squat like a woman when he passes his urine.

March 9th, 1839. The patient has been seen, within a day or two, by Dr. Heard, who is now one of the house surgeons of the hospital. He has been at sea, and has continued to enjoy good health, and to pass his urine with ease, as when he left the hospital. He continues to wear the instrument, and to withdraw it whenever he voids his urine.

REMARKS. — The materials of the following remarks on the treatment of strictures, have been partly compiled from standard works, and they are partly the result of my own observations. I have endeavoured to arrange them in such a manner that they may be practically useful to those who wish to obtain information on the subject.

The successful treatment of strictures of the urethra is by no means an easy task: it often requires a large amount of judgement and practical skill, and still more patience and unwearied perseverance. There is scarcely any disease in which rashness and violence are more to be deprecated, or in which the assiduous employment of gentle remedial measures requires to be continued for a longer time.

Strictures which are essentially *inflammatory or spasmodic*, or permanent strictures which are complicated with a considerable degree of inflammation or spasm, are to be treated by mild and soothing remedies. The rude and incautious use of bougies in such cases is not likely to do any good, and it may be productive of much injury. In these forms of stricture, much benefit is often derived from the relaxing effects of warm baths: where a general bath is not to be obtained, a hip-bath is found to be an excellent substitute.

Warm fomentations to the perinæum are also valuable remedies. These may be prepared simply with warm water, or various anodyne and antispasmodic substances may be added, such as opium, camphor, stramonium, hyoscyamus, conium, tobacco, &c. The application of tobacco steeped in hot water has a powerful relaxing influence. Emollient and anodyne enemata may also be advantageously employed. When the symptoms are urgent, two or three dozen leeches may be applied to the perinæum, the application to be followed by warm poultices or fomentations. Great relief may be afforded by the internal use of certain nauseating and relaxing remedies, such as tartarized antimony, tobacco, &c. The muriated tincture of iron, in doses of 10 or 15 drops every 15 minutes, is sometimes administered with the happiest effects. In some cases of spasmodic stricture, the irritability of the urethra is diminished by the gentle passage of a bougie down to the stricture: no force, however, should be used, and if the introduction of the instrument occasion much pain, it should immediately be withdrawn. In some instances, the momentary application of nitrate of silver to the surface of the stricture relieves the pain and spasm, and occasions the urine to flow with more ease and in a larger stream. This remedy should, however be used with much caution, as it sometimes aggravates the symptoms.

The treatment of *permanent strictures* has been conducted by different surgeons on different principles. These principles may be reduced to six, viz. dilitation, ulceration, cauterization, perforation, incision and excision.

1st. Dilatation. The mode of treatment by dilatation is that which has been most extensively adopted and most generally approved. It consists in the introduction of simple bougies through the stricture, gradually increasing their size, until the constricted portion of the urethra has become dilated to its original calibre.*

Bougies made of catgut have an advantage peculiar to themselves, viz. that after they are introduced into a stricture they increase in volume by the absorption of fluids, and so continue to effect a gentle and gradual dilatation of the stricture. But they have the disadvantage of presenting a surface much less smooth than the other kinds, and they are seldom used, except of a very small size. The wax and composition bougies, on account of their softness, adapt themselves to the sinuosities of the constricted portion of the urethra, and can sometimes be introduced through a tortuous passage with more ease than those which are made of other materials. But they are very liable to be bent or cracked in the attempt to introduce them. The elastic bougies present a remarkably smooth surface, and, as they are hollow, any form may be given to them by a stilet introduced into their cavity. In consequence of their smoothness and their pliability, they may be worn in the urethra a longer time without producing irritation, than any other kind of bougies.*

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* The instruments which are employed for this purpose are constructed of different materials, and they consequently possess different properties.

When they are sufficiently large to admit a firm stilet, they may be introduced with more facility than any other flexible instruments. There is a great difference in the quality of elastic bougies; some of them are very stiff and extremely liable to crack. The last remark applies especially to French instruments; those which are made in England are generally of a very superior quality. The flexible metallic instruments have a very smooth surface; and they are capable of receiving any form: but those of a small size are too pliable to retain the form which is given to them, and I do not think that they have, upon the whole, any advantage over other instruments. Inflexible metallic bougies are usually made either of iron, steel, or silver. Silver has the advantage of not being liable to rust, and consequently of retaining a smooth surface.

But bougies of steel or iron, if kept clean and bright, answer equally well. Inflexible metallic bougies have several advantages over flexible instruments. They retain the form which is given to them, and they can be directed with much greater precision: and in cases in which it is necessary to use considerable force to overcome a stricture, the power may be applied with greater effect with these instruments than with flexible ones. On the other hand, when improperly used, they are more likely to lacerate the urethra and to form a false passage for the urine: and when they are worn in the urethra for a considerable time, the pressure which they occasion is much more uncomfortable to the patient. And there are some cases in which the passage through the stricture is tortuous, in which flexible bougies may be introduced with greater facility than inflexible ones. But, upon the whole, in the majority of cases, I prefer the use of inflexible metallic bougies to the employment of any other instruments.

The form of a bougie is a matter of considerable importance in the treatment of strictures. These instruments are generally made of a cylindrical form, with a smooth, blunt, rounded extremity. Instruments of this form are sufficiently well adapted to the dilatation of strictures which are not very firm, and which do not offer any great degree of resistance. But when a stricture is very dense and hard, and yields with great difficulty to the passage of an instrument, important advantage is derived from the employment of a bougie which is very small at the point, and which gradually increases in size for one or two inches from the extremity. But it should not be made to increase in size from the remote extremity entirely to the handle, unless it be of a very small size, because it is designed to operate only on the stricture, and there is no advantage in putting the orifice of the urethra on the stretch. Very small instruments, especially if made of soft materials, may advantageously be made of a conical form throughout their entire length, as they thereby require a greater degree of firmness. When a stricture has been dilated almost, or quite to the dimensions of the orifice of the urethra, it is well to employ the instrument which is called a bellied bougie, that is, a bougie of moderate size towards the handle, but having a fusiform expansion at the distance of an inch or two from the point. By this means, the stricture may be effectually dilated, while the orifice of the urethra, which is the most sensitive as well as the most contracted portion of the canal, is not wearied by the continued pressure of a large instrument.

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* They are, however, liable to be corroded by the urine and consequently to become rough on the surface.

Inflexible bougies are usually curved, so as to adapt them to the natural form of the urethra. Instruments of this construction are introduced with more comfort to the patient than straight ones, where there is but slight resistance to be overcome. But I am fully satisfied from repeated trials that, where there is a hard and unyielding stricture, it may in many instances be more readily overcome with a straight bougie than with a curved one. One great advantage which is possessed by a straight bougie is that a rotatory movement may be given to it, by means of which the point of the instrument may be insinuated within the stricture, with far less force than would otherwise be required, and with more certainty. If, however, a stricture be situated as far back as the membranous part of the urethra, more difficulty is sometimes experienced in the introduction of a straight instrument.

In the treatment of strictures by dilatation, or indeed by any other method, the first step is to ascertain the distance of the stricture from the orifice of the urethra, the diameter of the passage which leads through it, the extent of the stricture and its form. The distance of the stricture from the orifice of the urethra is readily ascertained by passing down to it a large bougie; when the point of the instrument is arrested by the stricture, a mark should be made on the bougie close to the orifice of the urethra, and on withdrawing the instrument, the distance may readily be measured. It is convenient to employ a bougie with a scale of inches and lines marked on it. The diameter of the aperture through the constricted portion of the urethra may be ascertained by measuring the largest bougie which can be passed through it. A pretty correct idea of the form and extent of the stricture may be obtained by passing through it a small bougie coated with a soft composition, and allowing it to remain, for a time, within the stricture, and on withdrawing the bougie, observing the impressions which are made upon its surface. All these circumstances should be carefully observed and recorded, in order that they may serve as a standard by which we may judge of the progress of the cure. Ducamp's exploring bougie is a very convenient instrument for measuring the situation, form and dimensions of a stricture. It is an elastic bougie, having marked on its side a scale of inches and lines from the point, which is tipped with a composition which Ducamp called moulding wax. The composition consists of equal parts of yellow wax, diachylon, shoemakers' wax and rosin melted together. The exploring bougie is introduced down to the stricture, and pressed against it for half a minute with some firmness; and on being withdrawn, it presents an impression of the stricture. Before withdrawing the instrument, the distance of the stricture from the orifice of the urethra may be readily determined by the scale. Sir Charles Bell contrived a series of gold and silver probes with balls at the end, and judged of the extent of a stricture by the feeling of resistance. This contrivance has not been found to answer well in practice.

Having made the necessary preliminary observations, the treatment of the stricture should be commenced by the introduction of a bougie of as large a size as can be passed without much difficulty. When a bougie is to be introduced, the patient may stand against a wall, or he may be placed in a recumbent position, with the thighs slightly flexed on the trunk, and the legs on the thighs: the last named posture is that which I generally prefer. The bougie should be warmed to the natural temperature of the body, and should be well smeared with olive oil, or with fresh lard. If a straight instrument be used, the operator should stand on the right side of the patient, and hold the bougie with the thumb and forefinger of the right hand, while with the thumb, and fore and middle fingers of the left hand, he seizes the penis just behind the glans, and draws it downward and forward, so as to bring the axis of the urethra as nearly as possible to a straight line. The bougie is then to be gently introduced into the urethra as far as the stricture, while, at the same time, the penis is drawn over it with the left hand. If the point of the instrument be arrested by the stricture, it should be inclined a little first to one side and then to the other, and renewed efforts made at the same time with a moderate degree of force to push it through the stricture: it will frequently be found useful to give a gentle rotatory motion to the instrument. If the bougie cannot by these means be made to pass through the stricture, it should be withdrawn, and an attempt should be made with one of a smaller size.

In introducing a curved instrument, the operator should stand on the left side of the patient, and, grasping the bougie and the penis in the manner before described, should direct the glans penis forward and upward, and introduce the bougie as far as possible in that position, keeping the handle of the instrument near the linea alba, and drawing the penis as far as he can over the bougie. When the point of the instrument is thus brought under the arch of the pubes, the handle is to be depressed between the thighs, and the point slips into the bladder. If the point of the bougie be arrested at the stricture, it should be inclined in different directions until it enters the aperture.

There are a number of causes which may impede the passage of a bougie through the urethra. I will enumerate those which most frequently occur. 1st. When a small bougie is used, its point is liable to become entangled in the orifice of one of the lacunœ, which open the internal surface of the urethra. This difficulty may be obviated by withdrawing the instrument about half an inch, and then passing it on again, having its point inclined in a different direction.

2nd. In consequence of the irritable condition of the mucous membrane of the urethra, spasms are frequently excited by the attempt to introduce a bougie, and the instrument is so tightly grasped that its progress is arrested. These spasms may sometimes be removed by a gentle friction with the finger upon the perinæum, or by immersing the penis in cold water; at other times, the spasms will subside after the bougie has remained a few minutes stationary in the urethra. If the spasms continue, the instrument should be withdrawn, and no attempt should again be made to introduce it, until the irritability of the urethra has been diminished by appropriate remedies.

3d. The canal leading through a constricted portion of the urethra is, in many cases, not in the centre of the stricture, but is situated at the upper or lower part, or on one side, and it is frequently more or less tortuous. In cases of this kind, the point of the bougie is apt to press upon the solid part of the stricture, and not to enter the canal which leads through it. This difficulty may sometimes be surmounted by the use of the conductors invented by Ducamp. These are large hollow bougies which are made bulging on one side near the point, and open at the extremity. Having previously ascertained the form of the stricture and the position of the canal leading through it, the conductor must be passed down to the stricture with its bulge in such a direction as to bring the opening at the extremity of the bougie in a line with the aperture of the stricture: a small bougie may then be passed through the conductor into the stricture. After the stricture has been moderately dilated, the use of the conductor may be dispensed with.

4th. Small flexible bougies sometimes bend back upon themselves, so that while they appear to be passing through the stricture, they have not in reality entered it. The surgeon may often determine whether this accident has occurred, by relaxing the pressure; if the instrument be bent back on itself, it will usually recoil when the pressure is removed, especially if it be an elastic instrument; but if the bougie be very small, it will not recoil. It may be ascertained, whether the extremity of a wax or composition bougie has entered the stricture by examining it after it has been withdrawn. If the extremity appear blunted, it is a proof that it has not entered. But if it be flattened or indented on the side near the point, it must have entered the stricture. When the point of the instrument has fairly entered the stricture, pressure should be made on it for some time, and it should be repeated at intervals until the instrument can be made to pass entirely through. When a wax bougie is to be employed, Sir Astley Cooper recommends that the natural curve of the urethra be given to the instrument before introducing it.

After a bougie has been passed through a stricture, the next question is, how long it shall be left there. This is to be determined chiefly by the effects which it produces. If its presence occasion much irritation, pain, or spasm, it should be withdrawn within a very few minutes: if it do not occasion much inconvenience, it may be left in its place for half an hour, or even for a longer time. It occasionally happens that the introduction of a bougie brings on a regular paroxysm of chills and fever. The greater number of patients who are affected in this manner consists of those whose constitutions have been impaired by long residence in a warm climate. Great care should be taken in cases of this description to avoid all unnecessary causes of irritation, and to pursue the most soothing method of treatment.

In ordinary cases of stricture, one or two days should elapse after the introduction of a bougie, before the operation should be repeated. In general, I do not think that it is advantageous to pass the instruments oftener than three times in a week. Where there is much irritability, the interval should be longer: where the operation produces very little irritation, it may be repeated every day. The cure of a stricture is more apt to be retarded than accelerated by the too frequent introduction of bougies. The size of a bougie, to be used for the dilatation of a stricture, should be such as to require a very moderate degree of force for its introduction. When the instrument passes through the stricture with ease, one of a larger size should be selected, and should be introduced immediately on withdrawing the smaller one. And each time that the size of the instrument is to be increased, it is best to pass a bougie which has previously been introduced through the stricture, and on withdrawing it to substitute one of a larger size. A record should be kept of the size of the instruments which have been introduced, each instrument being numbered according to a graduated scale prepared for the purpose. A convenient instrument for measuring the size of bougies is a metallic plate perforated with a series of circular holes, regularly increasing in size from one extremity to the other, the smallest hole being marked No. 1, and the largest, No. 12, which last corresponds nearly with the natural calibre of the orifice of the urethra. It sometimes happens that a bougie, at one time, may be passed with ease, and at a subsequent attempt cannot be introduced, so that it becomes necessary to go back to an instrument of a smaller size. At other times a surgeon is able to introduce a much larger bougie than he was previously able to pass. A remarkable instance of this kind is related in the third case mentioned in this paper.

The passage of bougies should be continued until No. 12 can be passed through the stricture with ease: and for several weeks after that period, a full-sized instrument should be introduced two or three times a week. During the next six months it is well to have the instrument introduced as often as once or twice a month, and occasionally throughout life, if any tendency to contraction exist. By pursuing this systematic and persevering course of treatment, I believe that, in a large majority of cases, stricture of the urethra, which has so long been regarded as an *opprobrium chirurgorum* may be entirely cured. Surgeons were formerly less successful in the treatment of strictures by dilatation than they are at the present time, because they were in the habit of contenting themselves with the passage of bougies much smaller than the natural size of the urethra.

The second mode of treating strictures is by *ulceration*. It consists in passing down to the stricture a firm bougie too large to pass through it, and making a powerful and steady pressure with the view of exciting ulceration, and thus destroying the stricture. The size of the instruments is rapidly increased, and the operation frequently repeated. This is a very painful and uncertain method of treatment. It frequently brings on violent spasms and retention of urine, and it sometimes makes a false passage, giving rise to urinary abcesses, fistula, &c. It may, however, be proper to try it, with caution, in those cases in which no instrument can be made to pass through the stricture. If, after several trials, the point of the instrument is found to pass farther than at first, and at the same time there is no improvement in voiding the urine, it may be considered as probable that the instrument is making a false passage, and this mode of treatment should be abandoned. When the treatment by ulceration has succeeded so far as to allow the passage of a bougie fairly through the stricture, the remaining part of the treatment may be conducted by dilatation in the ordinary way.

The third mode of treating strictures is by *cauterization*, or the application of caustic or corrosive substances to the stricture. Wiseman was in the habit of treating strictures with red precipitate, introduced by means of a stilet passed through a canula. Hunter at first adopted the same treatment, but finding that the red precipitate acted too extensively upon the mucous membrane of the urethra, he was induced to substitute for it the nitrate of silver. He made his first trials, by attaching the caustic to the end of a wire by means of sealing-wax. He afterwards contrived a porte-caustic connected with a stilet which he passed through a canula down to the stricture.

It was ascertained by Hunter, that the nitrate of silver introduced in this manner, was frequently applied not to the centre of the stricture, but, in part at least, to the sound portion of the urethra. He therefore adopted the following mode to avoid the inconvenience. He took a composition bougie of a size that would pass readily down to the stricture, cut off its point, and made a little excavation in the end which was left by the incision; into this excavation he introduced a piece of nitrate of silver as large as the head of a pin, and covered the sides of it with the soft material of the bougie which had previously been warmed. The bougie thus armed was allowed to harden by exposure to cold before it was used. When it was to be introduced, a common bougie of the same size or a little larger was previously passed down to the stricture, in order to dilate the canal, and to measure the exact distance of the stricture. The armed bougie, having the depth of the stricture marked on it with the nail, was then to be oiled, and introduced as rapidly as possible down to the stricture, immediately on withdrawing the common bougie. Moderate pressure was then to be made upon the stricture with the armed bougie, for half a minute to a minute, and the instrument to be removed. The operation was directed to be repeated every other day. This mode of treating strictures was adopted and highly extolled by Sir Everard Home, and it has been employed, to a greater or less extent, by a number of distinguished surgeons. It has undoubtedly been successful in effecting a radical cure of many bad cases. But it is by no means without inconvenience or even danger to the patient. The caustic frequently acts upon the sound portion of the urethra, occasioning much pain and irritation, and sometimes giving rise to hemorrhage either into the canal of the urethra, or into the adjacent cellular tissue, in which case it forms a tumour in the perinæum. Tumours of this kind usually subside spontaneously in a short time. The hemorrhage which follows the application of nitrate of silver is occasionally very copious. Sir Everard Home relates several examples of this kind. When nitrate of silver begins to produce its effect on a stricture, the small arteries of the penis act with increased force, so that their pulsations can be felt by the surgeon. The pain which follows the use of nitrate of silver usually ceases in about half an hour. After the judicious employment of nitrate of silver, the inflammation which follows is usually slight and of short duration. Retention of urine is sometimes induced by the use of armed bougies: but it is not often of long continuance. On the other hand, retention of urine, occurring from other causes, is sometimes speedily relieved by the application of nitrate of silver to the stricture. When strictures are very irritable, the use of armed bougies has sometimes a happy effect in calming the irritation; but severe paroxysms of chills and fever occasionally follow their use. A fatal case of this kind is related in Cooper's Surgical Dictionary as having occurred a number of years ago in St. Bartholomew's hospital: the patient was somewhat advanced in age. This accident occurs most frequently in persons who have long resided in hot climates, but it is not confined to them.

Another mode of employing nitrate of silver for the cure of strictures is that which was contrived by Ducamp, and afterwards greatly improved by Lallemand. The instrument in its most perfect form, as used by Lallemand, consists of a silver canula through which a stilet is passed, having a button at the extremity which is towards the stricture, accurately adapted to the orifice of the canula, and behind the button, a small elongated cavity on one side of the stilet: this cavity is filled with pulverized nitrate of silver which is then fused by means of a spirit lamp. The handle of the stilet is made into a screw to which a small nut is adapted. A small slide is placed upon the outside of the canula, and is capable of being fixed by means of a thumb screw. This apparatus is intended for the application of the caustic to the interior of the stricture, and can only be employed in those cases in which the constricted portion of the urethra will admit the passage of a bougie at least as large as No. 2 or 3. Having previously ascertained the exact situation, form, and dimensions of the stricture by means of the exploring bougie, the slide of the canula is to be fixed at a distance from the point of the instrument, corresponding with the distance of the stricture from the orifice of the urethra: the instrument is then to be well oiled and warmed, and passed down to the stricture, the side of the stilet on which the caustic is exposed being directed towards the thickest part of the stricture. The nut is then to be unscrewed to such a distance as it may be deemed necessary to cauterize the stricture, and the stilet pushed on into the contracted portion of the urethra. According to the form of the stricture, the caustic may now be applied only to one side, or, by rotating the stilet, it may be applied on all sides. The caustic is retained within the stricture for half a minute or a minute, and it is then withdrawn into the canula, and the whole removed from the urethra.

By means of this apparatus, the nitrate of silver is made to act exclusively on the interior of the stricture, and the sound portion of the urethra is protected from it. It acts much more rapidly and at the same time more safely in destroying a stricture, when introduced in this manner, than in any other. Occasionally, however, the application is followed by a temporary retention of urine. When a stricture readily yields to dilatation, the application of nitrate of silver is not necessary, although, even in such cases, it may expedite the cure. But when, after being dilated to a certain degree, it refuses to yield to further dilatation, this mode of treatment is strongly indicated, and it will, I think, be found in practice to be, at the same time, the most mild and the most efficacious course which can be adopted. It is also applicable to those cases which are readily dilated, but in which there is an unusually strong disposition to relapse. One or two days after the application of the caustic to the internal surface of the stricture, as large a bougie as possible should be passed through it, and the dilatation should be repeated at the usual intervals for several weeks. The success of the treatment very much depends on the subsequent dilatation, as, after the destruction of the stricture by caustic, there is a strong tendency to contraction of the urethra in the same place, which tendency is only to be overcome by the introduction of large bougies. Upon the whole, it appears to me that this method of cauterizing strictures is very much superior to that adopted by Hunter and Home, in those cases to which it is applicable: but there are some cases in which this method cannot be employed, where armed bougies may advantageously be substituted. Sir Astley Cooper recommends that caustic should never be applied to a stricture, except when fistula in perineo exists behind it, on account of the danger of inducing retention of urine.*

Another method of cauterizing strictures was that suggested and practised by Mr. Whately, who used caustic potassa instead of the nitrate of silver. This method is fully described in Cooper's Surgical Dictionary: it has been approved and followed by a few surgeons, but it has been generally condemned as a very uncertain and hazardous mode of treatment.

The fourth general mode of treating strictures is by *perforation*. This operation has been recommended and practised in two different ways: 1st, by means of a conical metallic catheter, having a blunt extremity, and requiring considerable force to push it through the stricture · 2nd, by means of a stilet, having a sharp point shaped like that of a lancet, and cutting its way through the stricture. The forcible perforation of strictures by means of a conical metallic catheter is an operation which, a few years ago, was very frequently practised by a number of the leading French surgeons, and was regarded by them as a milder and safer practice than the application of caustic with the armed bougie, which, at the same time, was much in vogue among English practitioners. The instrument chiefly used for this purpose was a silver catheter of a conical form towards the point, and very slightly curved: this was introduced through the stricture and carried on into the bladder with a degree of force sufficient to overcome any resistance that might be made by the stricture; and it was then directed to be worn in the bladder for several days. On withdrawing it, an elastic catheter was to be introduced in its place and worn there, being cleansed and replaced as often as might be necessary. This operation in some bad cases has succeeded in effecting a remarkably rapid and complete cure. But it has, in several instances, been followed by fatal consequences. One fatal case came under the observation of Mr. Cross an English surgeon, author of a work on the Parisian hospitals, while he was on a visit to the French capital. In this case, however, the fatal result may perhaps be fairly attributed to the imprudence of the patient, who withdrew the catheter about a week after the operation, and attempted to evacuate his bladder without it. Extravasation of urine was the consequence, followed by extensive sloughing and death. I understand that the forcible perforation of strictures has been successfully practiced, in several instances, in this city by Dr. David L. Rogers. There is no doubt that extremely obstinate and complicated strictures have been cured by this method; but it is a hazardous mode of treatment, and I am very doubtful whether it ought ever to be resorted to.

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* But I cannot help thinking that he has an exaggerated apprhension of the danger resulting from the application.

The treatment of strictures by perforation with a lancet-pointed stilet was recommended and practised by Mr. Stafford. When a small metallic bougie could be passed through the stricture, he used a hollow stilet with a small lancet-point on each side of its extremity. He first introduced the bougie through the stricture, then over it a canula of the size of a bougie No. 10, which he passed down to the stricture, and finally, over the bougie, but within the canula, he introduced the armed hollow stilet, the bougie serving as a guide to conduct the stilet to the stricture. He then gently pushed the stilet into the stricture, and withdrawing it into the sheath attempted to pass on the canula: if this could not be effected, he again pushed the stilet a short distance onward, and this he repeated, until he was able to pass the canula with ease through the stricture. When no bougie could be passed through the stricture, he used a stilet armed with a single point at the extremity, which he introduced through the canula down to the stricture, and, in other respects, conducted the operation as in the former case. After dividing the stricture, Mr. Stafford introduced an elastic catheter which he left in the bladder one or two days, and afterwards introduced a bougie twice a week, or oftener, as circumstances seemed to require. He performed this operation in numerous cases, and, according to his own account, with much success. He does not think that the operation judiciously performed, is likely to produce a false passage, or to occasion hemorrhage, or other unpleasant consequences. I have never operated according to this method, nor have I seen the operation performed by others: but I am incilned to believe that it is safer and more certain than the forcible perforation with the conical catheter, and that it might properly be resorted to in very obstinate cases.

The fifth mode of treating strictures is by *incision*. This consists in cutting through the perinæum down to the urethra, laying open the stricture, and passing a full sized elastic catheter through the penis into the bladder, allowing it to remain there until the wound has been healed over it. It is generally necessary, however, to withdraw the catheter occasionally, in order to prevent calculous incrustations from forming on its surface. When the instrument has been withdrawn, it should be cleansed and immediately introduced again, or, if it be injured by use, another similar catheter should be substituted for it. This operation is applicable to very obstinate and extensive strictures, complicated with fistula in perineo, retention of urine, &c.: and, in such cases, it is more likely to prove successful than any other mode of treatment. The operation is performed by introducing a large steel bougie down to the stricture, cutting upon its extremity, introducing a probe through the canal of the stricture, and laying it open throughout its whole extent. An elastic catheter is then passed, in the usual manner, through the penis, as far as the wound in the perinæum, from which the point of the instrument is readily directed into the bladder. This operation has frequently been performed, with more or less complete success, in cases in which there seemed to be no other mode of relief. The last case related in this paper, affords an instance of extremely aggravated stricture, combined with fistula in perineo, in which I performed the operation with very great relief to the patient. Professor Jameson of Baltimore has successfully treated a number of severe cases of stricture by incision: he not only cuts through the urethra, but freely divides the triangular ligament.

The sixth and last general mode of treatment, which has been proposed for the cure of strictures, is by *excision*. This consists in cutting out the whole of the diseased portion of the urethra, and introducing an elastic catheter into the bladder, to be left there until a new canal has been formed around it. It is a harsh operation, and I am very doubtful whether it ought ever to be performed, unless where the substance composing the stricture is of a malignant nature. If there be any other case in which this operation would be proper, it is that in which there is a small circumscribed stricture, attended with a great degree of induration, and obstinately refusing to yield to the ordinary modes of treatment.

Report of Cases treated at the Broome-street Infirmary for Diseases of the Skin, from June 22d, 1836,* *to July 1st,* 1837.

By H. D. Bulkley, M.D., Physician to the Institution, Lecturer on Diseases of the Skin, &c.

Every one familiar with the nature of institutions for the relief of those who are able to apply in person for advice, especially for diseases of the nature of those affecting the skin, must be aware that numerous causes, arising either from the caprices or the necessities of patients, must interfere materially with every attempt to obtain accurate returns of the results of treatment, and especially of the effects of particular remedies. Disappointment as to the time necessary for a cure in chronic cases, or perhaps impatience, either because improvement does not commence as soon as anticipated, or progresses more slowly than their hopes, together with irregularity of attendance, arising from urgent calls for daily bread in some cases, or detention at home by exacerbations of their disease, or by attacks of illness of a different nature in other cases, too frequently baffle the best efforts both to afford relief, and to watch the effects of remedies. Nor are these the only obstacles in the way of success. The great difficulty, and, indeed, in many cases, impossibility of exercising the necessary control over diet and regimen in individuals of this class, and the want of the important auxiliary treatment of baths of different kinds, which an infant institution, depending for its resources solely on individual effort and voluntary contributions, must necessarily suffer, will frequently delay, and sometimes entirely frustrate the attempt to effect a permanent cure. These circumstances, it is hoped, will be deemed a sufficient apology for the imperfect manner in which many of the following cases are presented, and for the so frequent absence of satisfactory therapeutic results.

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* First opened on that day for the gratuitous treatment of these diseases.

The whole number of patients entered on the books of the Infirmary during the period specified, was 246 — of these, however, 15 did not belong to the class of diseases within the special limits of the Institution — leaving 231 cases strictly cutaneous.

These 231 cases were distributed as follows:

I. EXANTHEMATA. — 7 of *Erythema*, 3 of *Erysipelas*, 2 of Urticaria, and 1 of Rubeola.

II. VESICULÆ. — 67 of *Eczema*, 18 of *Herpes*, 18 of *Scabies* and 3 of *Varicella.*

III. BULLÆ. — 1 of *Pemphigus*, and 2 of *Rupia.*

IV. PUSTULÆ. — 26 of *Impetigo*, 5 of *Porrigo*, 4 of *Ecthyma*, 2 of *Sycosis*, and 13 of *Acne.*

V. PAPULÆ. — 27 of *Lichen*, and 8 of *Prurigo.*

VI. SQUAMÆ. — 1 of *Lepra*, 6 of *Psoriasis*, 4 of *Pityriasis*, and 1 of *Ichthyosis.*

VII. HÆMORRHAGIÆ. — 1 of *Purpura.*

VIII. SYPHILITICÆ. — 5 of *Infantile*, 3 of *Papular*, 2 of *Tubercular*, and 1 of *Pustular.*

Erythema.—Of the seven cases of this form, three were of the species *E. intertrigo*, characterized by redness, excoriation, &c. of opposite surfaces and between folds of skin, as between the scrotum and upper part of the thighs, under the neck, &c., and occurred in infants four to six months of age. These yielded readily to mild laxatives, with the free use of warm water locally, and the application of simple cerate, or of some mildly stimulating ointment when excoriation or ulceration had taken place, weak kreasote ointment (gtts. x. to xv. to ℥j. lard) will frequently be found useful for this purpose.

One of the cases was of the variety affecting the nose and face and called by Marshall Hall *erythema nasi*, and which seems rather to be the precursory stage of *acne rosacea*. The patient was a married female, 37 years of age, who had been similarly affected, four years previously. The disease then disappeared under the use of remedies, but returned about one and a half years ago, on her arrival from sea. When first seen, the whole of the nose and a portion of the face extending about an inch on each side from the nose, was of a deep red color, and there was also some unnatural redness of the forehead, and also of the chin, with slight roughness on the left side of the cheek, and some desquamation on the right side of the nose; there was a sensation of both burning and itching. The patient was generally of a costive habit; the tongue was considerably coated white. She was ordered 2 pills every night, containing 2 grs. each of comp. extr. colocynth and blue pill, and ½ gr. ipecac, to confine herself to vegetable and farinaceous diet, and to apply, twice daily, an ointment containing 20 drops of kreasote to ℥j. of lard. Five days afterwards, the appearence of her nose and face had very much improved, the redness was nearly gone, and there was less burning sensation in it. The tongue was nearly clean. The same remedies were continued. When seen at the end of four days more, the affection remained about the same; she had been exposed to severe cold (it was about Christmas); the same means were still continued. She was then not seen for several weeks, during which interval she had not applied the ointment. The face was nearly well; there was still slight redness of the parts affected, and a few spots about the chin like acne. She was then ordered pills containing 2 grs. each of rhubarb and carbonate of soda, and ¼ grain of ipecac, and an ointment of kreasote, as before. She was now absent from the infirmary for three weeks ; her face was relieved while using the ointment, but the redness had increased since it was discontinued. The same application was repeated, but she was not seen again.

Another case belonging under this head, was one of thickening of the cuticle of the palm of the hand, with fissures, &c. The patient was a female, 40 years of age, who had several spots on the inside of each hand and between each thumb and finger, covered with cracked and thickened cuticle. She was first troubled with it about six months before, and had no eruption elsewhere. She had taken sulphur and cream of tartar for it three or four months, and had also had caustic applied ; her bowels were inclined to be costive. She was first ordered an ointment of dento-ioduret of mercury (12 grs. to ℥j. lard), and two days after, commenced the use of small doses of bi-chloride of mercury in compound tincture of gentian. At the end of seven days, her hands were much better, and her general health very materially improved. The local affection continued to improve under the continued use of the same means, until it was aggravated by working. The local application was then changed to iodide of sulphur (℈j. to ℥j. lard,) and at the end of four days her hands were again very much improved. At the end of more, another week, still greater improvement had taken place, and her hands were better than they had been at any previous period. The thickened cuticle had disappeared from nearly every part, leaving a thin, shining, red skin beneath. The same ointment was continued. She was now not seen for a month, during which interval she neglected herself, and the disease was beginning to return. The same ointment was again ordered, but she was not seen again. Each of the local applications used had a decidedly favourable effect, particularly the second, and there is reason to believe that, if the treatment, both general and local, could have been continued uninterruptedly a sufficient length of time, with the aid of diet and especially the removal of all local irritation, a cure might have been accomplished.

Of the remaining two cases of erythema, both were in adults, and affected the face ; but were without any special interest. They are both successfully treated by Dr. Vandervoort (at that time my associate in the institution) with purgatives and a lotion of acetate of lead.

Erysipelas. — Of the three cases of this disease prescribed for, two were mild cases affecting the face in adults, and the third occurred in a child two years of age; neither of them affording any thing of special interest.

Urticaria. — But two patients with this troublesome affection applied for relief. Of the case of one, no record was kept: the other afforded a good specimen of that chronic form of the disease (*U. evanida*) so intimately associated with long continued gastric disease, and so tedious in its duration, from the difficulty of removing the cause on which it depends. The patient was a female, 60 years of age; but as she returned to the infirmary but once, and then only two days after her first visit, no chance for affording relief was allowed.

Rubeola. — The single case of this exanthema which was seen at the infirmary was of the ordinary character, and appeared in a little patient still marked by an attack of varicella.

Eczema. — This form of disease, in its different varieties, will be seen to constitute more than a fourth part of the whole number of cases, a proportion which it is usually found to hold among affections of the skin. It presents itself with such varieties of character in the different species, and with such modifications according to its seat, duration, and the age and constitution of the patient, that one not familiar with its protean appearance, will sometimes fail to recognise it under some of the shapes it assumes.

A very common variety is that found affecting the heads of infants during the first and second dentition, which is often confounded with other affections of the scalp, and some of them of an entirely different nature, under the vague name of *tinea capitis*. Of this form, several cases were under treatment, and yielded favourable results. Such cases were generally found connected with more or less derangement of the digestive organs, to the removal of which the treatment was directed, by means of small doses of the milder preparations of mercury, with rhubarb and soda, or magnesia. When the head had been so much neglected as to give rise to an accumulation of filth and discharge, in the form of scabs encrusting the head to a greater or less degree, and matting the hair together, this was first removed by poultices; entire cleanliness was then maintained by repeated washing with warm water through the day, at the same time that the bowels are regulated by the medicines referred to. If there was redness and tenderness of the scalp after the removal of the scabs, a weak solution of acetate of lead was used until this scab was removed. When there was little or no inflammation, but a great degree of itching, as is frequently the case, a weak solution of pearl-ash or carbonate of soda in water has been found a grateful and useful application ; at the same time, being especially careful to have the head frequently washed with warm water to prevent the accumulation of scabs, or the extension of the disease by the contact of the discharge; a rule, the observance of which is too apt to be neglected, and not unfrequently even forbidden, especially in domestic practice, but which should always be strictly enforced. After a period of time, varying from one week to several, and after the inflammation has nearly or quite disappeared, some mildly stimulating ointment will generally complete the cure. Of these, the number is very great, and even a list of those most in use would be out of place here, as they are varied to suit the taste or notion of almost every practitioner. One of the most convenient, and at the same time most efficacious, is the kreasote ointment, in the proportion of 10 to 20 drops to an ounce of lard, which will be found a good substitute for the tar ointment in more common use for this purpose; diluted citrine ointment may also be mentioned as frequently adequate to the cure. A practical caution of great importance to success is, that none of the stimulating ointments should be applied until after the inflammatory stage has nearly or quite passed, nor until the state of the bowels shall have been regulated by appropriate remedies, unless the disease is very limited in extent, when they may be applied immediately after the removal of the scabsand filth. To this caution should also be added another no less important, to watch carefully their effects, and to recur at once to emollient washes, when any symptoms of local inflammation appear, or when any symptoms of gastric, and especially of cerebral disturbance, manifest themselves. We need hardly say, that during the periods of dentition, the effect of this, as an exciting cause, must be watched and obviated.

Eczema on the forehead, face, neck and shoulders, as well as in other parts in older children, was generally found connected with errors in diet, or more or less gastric or intestinal derangement, and yielded to means for correcting these, with the frequent application of warm water, or the use of the warm bath; with particular attention to diet, restricting the patients, as far as possible, to farinaceous articles and plainly cooked fresh meat. These varieties frequently require some of the ointments before alluded to, especially when the disease, either from its duration or from neglect and irritation, has given rise to more or less ulceration of the outer surface of the dermis.

Five of the cases of Eczema were of the variety occuring in individuals recently arrived from sea, one of the forms of cutaneous disease affecting emigrants from Europe, of which the writer saw numerous cases, some of them of an aggravated character, during the same season at the New York Dispensary, the description, causes, and treatment of which may perhaps form the subject of a communication at a future period. In the milder forms of this variety, of which these few cases are a specimen, the eruption was found principally on the hands, about and between the ends of the fingers, about the wrists, and along the inner side of the fore-arm, and about the bend of the elbow. It also appeared about the feet and ankles, and simulated strongly in its seat, elementary character, and general appearance, scabies; in some cases, so strongly as to render the diagnosis very difficult, and often to mislead those who are not aware of the existence of such a form of cutaneous disease, and of its frequent occurrence under such circumstances. The treatment of these cases was conducted on the same general principles as were last alluded to, and with satisfactory results.

Scattered vesicles also frequenly appear on the hands and between the fingers, under different circumstances, though probably more or less under the influenee of similar causes, as errors in diet, &c., resembling scabies very much at the time of their first attack, and sometimes so strongly as to render it more prudent to proceed with caution, and to act as though the disease were contagious as long as any doubt remains — such cases, when recent and in young persons, usually yield without difficulty to mild alterative and laxative means, with strict attention to diet. In older persons, especially when of long standing, and after long continued aggravation by impróper food, alternations of heat and cold, and of dryness and moisture, and too frequently after irritating applications used for its removal, this form of eruption becomes much more difficult of management, and not unfrequently both exhausts the patience of its victim, and baffles the skill and perseverance of the physician. It is this variety of Eczema which, in its chronic state, and its more aggravated form, constitutes one of those troublesome affections so familiar to all under the name of *salt rheum* — the intractable nature of which has afforded such a prolific field for the use of so many nostrums and quack medicines of different kinds. The few cases of this variety which presented themselves, unfortunately throw no light on its successful treatment, and do little more than illustrate the long duration of the disease, the inefficacy of previous remedial means, and confirm the remark made respecting the impatience of those suffering with it, and their disappointment in not experiencing the immediate relief they anticipated, when they saw an establishment announced for the special treatment of this class of diseases. One was a female, 40 years of age, who had been suffering with it 20 years, and had tried a great variety of remedies without relief—she was of costive habit, suffered from acidity of stomach and other symptoms of deranged digestion. A second, was 35 years of age, had been afflicted with it 15 years, and had gone the rounds of salts, sulphur, and cream of tartar, &c., with as little benefit. The 3d case occurred in a younger person, and was more recent. The first two were not seen after 10 or 11 days, and the other was only seen occasionally during a fortnight. It is needless to add, that little, if any improvement could be expected within these periods, especially as the time had been principally spent in preparatory treatment, both local and constitutional.

A fourth case (treated by Dr. Vandervoort) was much more satisfactory. The patient, a female 23 years of age, had been troubled for six months with a eczematous eruption on the fingers, and especially on the fore-finger of each hand, attended with very great itching. Kreasote ointment was first applied with some benefit — this was soon exchanged, however, for the ointment of iodide of sulphur (℈j. to ℥j lard), by which a cure was effected.

A case of the chronic form of Eczema affecting the leg, in a female 23 years of age, was also successfully treated by Dr. V. The disease had existed on the right leg 12 months—the whole surface below the knee was covered with thick yellow scales, on the removal of which by emollient applications, the skin was found to be red, with a slight oozing of serum. The internal use of sulphur and cream of tartar, with the application of ungt. sulphuris et picis, removed the disease in the course of 6 weeks. It again appeared in a milder form; but under the use of Plummer's pill, one 3 times daily, and a wash of sub-carbonate of potash (ʒj to Oj water), was entirely cured.

Herpes.—Of the 18 cases of this form, 11 were of the species *phlyctænodes*, 1 of *H. zoster*, 2 of *H. circinatus*, 1 of *H. labialis*, and 1 of *H. præputialis*—in the other two, the particular species was not noted.

The first case of *H. phlyctænodes*, was in a married female, 43 years of age, who had also suffered from attacks of Urticaria a few months past. There were groups of visicles on the top of the right foot, and also on the inside of the thighs, most of them on an inflamed base. She had previously had them on the body and arms, but had none there at that time; there were some small groups between the fingers. The appetite was poor, a bad taste in her mouth in the morning, tongue furred yellow, particularly on the back part, and she suffered from acidity of stomach; she had lately been taking Brandreth's pills. She was ordered to take daily a table spoonful of the following mixture: ℞. Pulv. Rhei, bi-carb. Sod., āā ʒj. Aq. Cinnamoni ℥iv—mix. She was much improved at the end of 5 days, and at the end of 13 days, her general health was much better than it had been for a long time, and there was nothng left of the eruption but a small group between the fingers, and another on the foot. She had taken no medicine for several days—she was ordered infusion of camomile flowers, and to apply simple cerate to some sores which had been irritated, and was not seen again.

The latest case of the same disease was that of her son, 19 years old, on the top of whose foot the eruption appeared 8 or 9 weeks before, and who had been applying irritating ointment and powders, which had producd swelling and inflammation, and several superficial ulcers, of which there were, also, some on the lower part of the leg, and on the toes. His bowels are very costive, and his general appearance cachectic. He was ordered the same mixture, and a poultice for the foot and simple cerate for the sores — but was only seen once more.

A third case occurred in a man, 29 years of age, who had the eruption on his face, limbs, hands, feet, and some on his back, and had been suffering with it more than two years. He had taken a great variety of medicines, and among other things, 20 boxes of Brandreth's pills, and also used a great variety of ointments, and all without relief. Declined prescribing because he was then under treatment, and he did not return.

Two cases of this species seated on the face (treated by Dr. V.) will illustrate the nature of this variety, and one of them, its tendency to periodical return.

The first patient was a female, 21 years old, on the right side of whose face the eruption appeared a month before, and in consequence of irritation, spread over the cheek, and also extended up to the head in one direction, and to the upper lip in another, and when seen, was covered with a thin scab. Her tongue was much furred, bowels very costive, and appetite not good. She was ordered pills containing comp. extr. coloc. and blue pill, āā 2 grs., and ipecac half a grain, with low diet, and local application of kreasote ointment. Great improvement was evident in both the local and general symptoms in two days. She was then ordered pills containing 1 gr. each of calomel, aloes, and gamboge, and to continue the same ointment; and in a week or ten days more was quite well.

The subject of the second case was a woman, 55 years of age, who had a group of large vesicles filled with a whitish fluid, and resting on an inflamed base, of an irregularly circular figure, on her left cheek. The vesicles were of unequal sizes, some of them nearly as large as a split pea; the whole cheek was of a deep red color, and presenting a close resemblance to erysipelas when accompanied by the developement of bullæ. This had appeared every month or two for three years; he had nausea and sickness of stomach before the attack, and is relieved when the eruption comes out; there was also a small group of vesicles on the upper lip. Her bowels were very costive, sometimes open only once a week, tongue much furred. She was ordered pills of comp. extr. coloc., blue pill, and ipecac, and a lotion of acet. lead (℈ij. to Oj. water.) She was then not seen for nine days, during a part of which time she was confined to her bed. The inflammation of the face had abated very much, but a new group of vesicles had appeared near the inner canthus of the eye, and closed it; the gastric derangement was still great. She was now ordered pills of calomel, aloes, and gamboge, one grain each, and ointment of kreasote. When seen a month afterwards, there was no appearance of the disease on the face, but several large vesicles had appeared on the left fore-arm, and one or two groups on the breast. Her general health was quite poor, tongue furred, bowels irregular, &c. She was ordered the same pills as at the last visit, and afterwards, a decoction of gentian with orange peel, &c., and the local use of ungt. plumbi acet. The next month the eruption reappeared on the face, attended with so much swelling as nearly to close the eye, preceded, as before, by sickness of stomach and headache; it itched very much. She was then ordered elixir vitriol, 15 drops, three times a day. At the end of another week, there were scarcely any remains of it on her cheek, but a little had appeared again on the arm; the elixir vitriol was continued, with cathartic pills. Five days after, the left eye was again closed, there were several large vesicles on the upper lid, and some on the cheek below the eye, and a spot of the size of a two shilling piece on the back of the left hand. After the lapse of nine days more, the eruption had left the eye and the arm, but had reappeared on the cheek and under the eye, preceded as every fresh attack was, by gastric derangement; her bowels were still costive, and she had acidity of stomach. She was then ordered liquor potassæ, 20 drops three times daily, with cathartic pills. The disease would wholly disappear for a time; but the state of her general health was such that the periodical returns of the eruption could not be prevented. Of the remaining cases of this species, either the history was not kept, or they were without any special interest.

One of the patients with *H. circinatus* was seen but once; the seat of the eruption was the forhead and the upper eyelid; there was considerable gastric derangement, and obstinate costiveness, the bowels being sometimes not open for a week. He was ordered pills of comp. extr. coloc., blue pill, and ipecac, and the strong citrine ointment. The other was a trifling case in an infant.

The patient with *H. præputialis*, a man 34 years of age, had been troubled with itching and a slight eruption on the inner surface of the prepuce near the fold, at intervals, for about a year, and had had chancres three or four years before. The vesicles were broke before he was seen, and were followed by two or three red, excoriated surfaces. A wash of chloride of soda was used two days without advantage, and was then exchanged for one of nitrate of silver (4 grs. to ℥j.), and in two days more, when last seen, the sores were much improved. Subsequent experience leads me to believe that dry lint, or old linen, changed three or four times a day, forms a better dressing in such cases than any wash or ointment.

Scabies. — Of this disease, 18 cases are entered. They were treated with the ointment recommended by Biett and Rayer, as uniting the most advantages, and with results so favourable that no other was tried.* It will be recollected, that the result of numerous experiments made by M. Biett led him to the conclusion that this plan of treatment succeeded more promptly, is less liable to failure, and less apt to give rise to accidental eruptions than any other. Preparatory treatment is sometimes necessary, when there is much accompanying inflammation, and it is sometimes necessary to suspend its application for a time, if too much irritation is produced.

Varicella. — The three cases of this disease presented nothing of special interest. Two occurred in children of the same family; one of them was attacked with rubeola before the eruption of varicella was entirely off, as has been already mentioned.

Pemphigus. — But one case of this was seen — this occurred in a child one year old, living in a back basement, of cachectic appearance; the eruption began about four weeks before. He had, when seen, several spots of pemphigus on the front part of neck, with characteristic marks left by others on his breast; bowels were free, stools greenish. He was ordered rhubarb, magnesia, and the warm bath. Two days afterwards, there was a bulla about the size of a shilling piece, filled with yellow fluid, which appeared the day before; the medicine had operated freely, producing dark coloured stools — tongue slightly furred. He was then ordered powders containing 1 gr. calomel and 2 grs. rhubarb, morning and evening for two days, and afterwards at night only, with the warm bath every evening. Theo lderuption so on faded, a few new spots only occasionally appeared, and the child began soon to improve fast; when last seen, at the end of 24 days, it was very much improved in appearance, the integuments about the neck were perfectly natural, and no new eruption had appeared any where; the discharges from the bowels were still offensive and dark coloured, and the appetite rather poor; it was ordered the mixture of rhubarb and soda; it also took the decoct. of cinchona at one time with advantage.

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* Sulphur (sublimed) 2 parts; sub. carbonate of potash, 1 part; lard, 8 parts.

Rupia. — Two cases of this were successfully treated, both accompanied with spots of purpura. The first was in a man 75 years of age. The disease had commenced, eight days before, with a red spot on the upper and front part of the right leg, which afterwards filled with a fluid. He had, when he applied at the infirmary, several large spots of superficial ulceration, with irregular jagged edges, discharging a sanious fluid, and of a livid, red colour; the whole of the lower part of the leg was erythematous and œdematous, there was a spot of purpura of irregular shape, on the inner part of it; the leg began to swell about four days after the spots of rupia appeared — appetite rather poor, bowels rather costive, and tongue furred. He was ordered to take the following immediately: calomel 10 grs. rhubarb 15 grs., to live on vegetable food, to keep the leg in a horizontal position, to bathe it in warm water, and dress the sores with kreasote ointment, (gtts. xx. to ℥j. lard) The medicine operated freely, and, two days after, the leg was much less swollen, and the sores much more healthy. He was then ordered 30 grs. each, of jalap and cream of tartar, and to repeat the bathing and kreasote ointment. In three days more (at the end of the 5th day) the swelling was almost entirely gone, and the sores nearly healed. He was then directed to substitute simple cerate for the kreasote ointment — no medicine. He called at the end of eleven days more, to say that his mouth had been very sore and very much swollen, so that he could not eat; the leg was entirely well, the swelling all gone, and only redness in the place of the sores.

He was ordered ℥j salts, to be taken in divided doses, and did not call again.

The other case (treated by Dr. Vandervoort) was analogous in its character, and a similar treatment led to a similar result. The patient, a woman 17 years of age, of cachectic habit, had been troubled with a bullar eruption on her legs for three weeks; there were also spots of purpura on both legs; general health poor: pulse slow, and rather feeble. She was ordered a cathartic of calomel and rhubarb, local bathing with warm water and castile soap, and simple cerate as a dressing. The medicine operated well, and there was great improvement in the appearance of most of the ulcers in two days. Two of these, which presented a dark coloured surface with jagged edges, and which were discharging a sanious fluid, were dressed with tincture of myrrh. Some of the others were dressed with ungt. plumbi acet. and on some cream of tartar was sprinkled. They were afterwards dressed with kreasote ointment, and, on the 16th day, cicatrization of all the sores was nearly complete, and she was soon after discharged cured.

Impetigo.—The greater part of the cases of impetigo occurred in children: and affected either the hairy scalp, or some part of the face or forehead. They were frequently mild in their character, and limited in extent, and were generally connected with more or less derangement of the digestive organs, and usually yielded without much difficulty. Some of the cases affecting the scalp, were of the character of those classed with eczema of that part, under the loose and indefinite name of *tinea capitis*, and were of the kind liable to be confounded, more particularly, with the contagious disease seated on that part, the true porrigo.

In the cases affecting the hairy scalp, the first indication is to remove the scabs, which are often increased by an accumulation of filth, and by the matting together of the hair; this is done by poultices, and when the scabs are extensive, and are thick and adherent, it will be found very useful to sprinkle the surface of the poultice with flowers of sulphur. A poultice of this kind may be applied night and morning, while a simple poultice is applied once or twice during the interval. After the scabs are removed, the head must be frequently washed with warm water, or with a solution of pearlash, or soda in water, if there is much itching.

If a slight discharge continues, and a tendency to the formation of new scabs, this may be arrested by some mildly stimulating ointment, as recommended for eczema of that part, as the mild citrine ointment, and especially the kreasote ointment. In the meantime, it is usually of the first importance to regulate the secretions of the child, and to keep the bowels in a free state, restricting his diet, for the time, to vegetable or farinaceous articles. When the scabs are on the forehead, or on the cheeks, or the arms, or any other part than the hairy scalp, it will not be found best to remove them by poultices, unless of very long standing. With proper management of the stomach and bowels by means of laxatives and diet, and by frequent bathing of the part with warm water, the disease will be found to progress gradually to a cure. In some cases tonics will be found necessary, both to expedite and to confirm the cure. The following cases will illustrate the nature and treatmentof this form.

C. D. 19 months old. Has a spot on lower and back part of head, about two inches in diameter, almost perfectly circular; covered with yellow scabs, and another on vertex about the same size, with hair and scabs matted together; a few scattered spots on body, appetite very good, (probably unnatural;) has been taking medicine for loose state of bowels. He was ordered small doses of rhubarb and magnesia every night, to poultice his head with bread and milk, and afterwards wash it with an alkaline lotion, (pearlash ʒj. water Oj.) Three days after, the head was entirely free from scabs, and, at the end of two days more, he commenced the use of the rhubarb and soda mixture, and the application of the kreasote ointment. His head was nearly well on the 10th day, and entirely so on the 14th, and continued so several weeks afterwards.

H. S., aged 13 months, (is teething,) has a spot on right side, near vertex, duration of it not known, general health good. After the application of a poultice, the surface was clean and red, and sprinkled with small straw coloured pustules, the largest of the size of a common pin's head, others smaller and some mere yellow points. Kreasote ointment was then applied, (gtts. xx. to ℥j. lard) and under the use of this ointment, at the end of a month, spot was nearly natural, and soon after, was entirely well, and continued so when heard from, a month afterwards.

Porrigo. — The five cases of this form of disease were all confined to the head, and will do little more than illustrate its comparative infrequency, its obstinacy to remedies, and the great difficulty of securing the proper attendance of patients of the class in life who are in the habit of applying to public institutions for relief, in cases requiring long and careful attention.

One case was in a boy 14 years of age, who had had the disease 18 months. He was ordered the ointment of the deutoiodide of mercury, (12 grs. to ℥j lard). After removing the scabs by poultices, improvement commenced immediately, and, at the end of 20 days, the spots had assumed a nearly natural appearance, when he absented himself for five and a half months, after which interval of neglect the disease had re-appeared. The same course was repeated, and improvement was again evident, when he disappeared a second time, and did not return.

The second case was in a boy 12 years old, the disease of five or six years standing; a great variety of applications had been made to the head; the ointment of iodide of sulphur (℈j. to ℥j lard.) was applied with evident advantage, but he soon became very irregular in attendance, and was afterwards discharged for neglect. A third case was only seen once, and no notes of the remaining two were preserved. Of this disease, later experience has afforded much more satisfactory results.

Ecthyma. — Of the four cases of ecthyma, one case was in a female, 31 years of age, and consisted of several spots on each hand which had been there 12 or 13 days. After a laxative of rhubarb and bi-carbonate of soda, and the local application of poultices, she was so much improved that she did not return.

Another case was in a girl, 14 years of age, under the care of Doct. V., in which spots of ecthyma continued to appear for some weeks on the neck and shoulders, and especially on the hands. After regulation of the bowels by mild mercurials and the mixture of rhubarb and soda, the pustules ceased to appear under the continued use of elixir vitriol, three times a day, (a part of the time with sulphate of quinine,) and strict attention to diet. Of the other two cases, no account was kept, and they were probably but slight.

Sycosis-Mentagra. — Of the 2 cases classed under this head, one presented appearances differing considerably from the ordinary characteristics of this disease, and was thus arranged, because it did not seem so well entitled to a place elsewhere. Whatever its nature, the result of the treatment invests it with some interest. The subject was a female (widow) 40 years of age. An eruption appeared on the upper lip a year before, which, in 3 weeks, extended over the chin. The whole chin and upper lip were thickly covered with an eruption, presenting superficial ulcerations of circular shape, and surrounded by lurid areolæ, with great induration of the cellular substance underneath — the appearance resembling *somewhat* a venereal eruption — but there was none at all elsewhere, and never had been, and there was no proof of either primary or secondary symptoms — the face was exposed to great heat at times, and to great changes of temperature by her occupation, that of a cook — general health good — she was ordered pills containing equal parts of rhubarb and blue pill, — one night and morning, for 3 days — and to apply kreasote ointment to the *upper lip only* — at the end of 3 days, the upper lip was decidedly better, while the other parts remained the same — she then took pills of comp. extract of colocynth, blue pill, and ipecac, one night and morning, for 5 days, and applied kreasote ointment to the whole affected part. At the end of 17 days from her first visit, the eruption was nearly healed, only a few small spots remaining on the chin, and the soreness and stiffness were all gone — her general health was also much improved — she was then ordered pills, rhubarb, soda, and ipecac, and kreasote ointment, as before. Between 7 and 8 months after, she was again seen, and had a partial return of the eruption on the upper lip, which commenced about 10 days previous — it bore a greater resemblance to groups of venereal papulæ, but no farther evidence of their real nature could be ascertained — her general health was much improved — she was again ordered kreasote ointment, and did not return. No account of the other case was kept.

Acne. — Of the 13 cases of this very common form of eruption, all were of the species *simplex*, *punctata*, or *indurata*, except 1 case of *A. rosacea.* The cases of the first group afford but little instruction, as some were seen but once, and none more than 3 times, confirming what is well known to the profession, that individuals with this affection are rarely anxious enough for its removal to submit to any continued course of treatment, either general or local. The remedies directed were mild laxatives and alteratives, with frequent bathing of the parts affected (3 to 6 times daily), with warm water, and afterwards with a solution of potash or soda, to be followed by the use of the ointment of iodide of sulphur (℈j to ℥j lard) to indurations which might remain — the good of this application was decided in the cases in which it was made. The cases were all in patients between 16 and 24 years of age, and the greater part between 16 and 20 years.

The patient with *A. rosacea* was 40 years of age, of intemperate habits — the eruption was abundant on the nose and forehead, and also on the cheeks near the nose — these parts were all of a bright red color, sprinkled with numerous small pustules of a bright yellow color. After a purgative of calomel and rhubarb, which operated freely, and with benefit to his general health, he was ordered to take a pill, morning, noon and night, containing 2 grs. each of rhubarb and bi-carbonate of soda, and ¼ gr. ipecac, and to apply to the face, twice daily, an ointment containing 10 drops kreasote to ℥j lard. He was not seen for 20 days, at the end of which time, the appearance of pustules was almost entirely gone, and the surface of the parts affected was smooth and uniform, though still of a deep red color. His general health was poor, appetite bad, &c. He was ordered cathartic pills, &c., but was not seen again.

Lichen.— Of this form of eruption, 27 cases presented themselves, including two cases of strophulus. The greater part of these were of *L. simplex*, two were of the species *L. urticatus*, two of the variety *L. circumscriptus*, and one of *L. agrius*.

The cases of *L. simplex* were almost invariably found connected with derangement of the gastric or gastro-hepatic organs, and were treated with remedies calculated to obviate this; sometimes commencing with a mercurial cathartic, and following it with the mixture of rhubarb and soda; and at other times, exhibiting this mixture alone, with particular attention to diet, restricting the patient to farinaceous articles as far as possible; and always avoiding meat and all kinds of stimulating food and drink. This course, with warm bathing, warm sponging, and washing the parts affected with a solution of pearlash (ʒj. to Oj. of water), were generally found effectual. In young persons of plethoric habits, salts in divided doses, were given, instead of the mixture mentioned above.

In one of the cases of *L. urticatus*, in a boy 12 years of age, the eruption, which had appeared two days before, was all gone at the end of three days more, after taking little or no medicine. The other case occurred in a female, 30 years of age; the eruption began to appear about two weeks before, and had continued coming out until within five or six days. She was ordered a cathartic of calomel and rhubarb, to be followed by castor oil, and to use a lotion consisting of ʒj pearlash, to Oj water, to allay the itching, with vegetable diet. The eruption soon began to decline, and at the end of eight days, had faded very much and itched much less. She was then ordered salts and cream of tartar in divided doses, and to continue the same wash, and did not return again.

The case of *L. agrius* was one of the severest kind, but unfortunately afforded but little instruction in the way of treatment. The patient was a large muscular man, of a naturally full habit, 46 years of age. The eruption had appeared between five and six months previously, first at the bend of the elbows, and when seen, the whole of the abdomen below the umbilicus, and the whole of the back, loins, and nates, were thickly sprinkled with patches of inflamed papulæ of different sizes, two to four inches in length, with intervals of sound skin between them; there was not a spot on the chest, nor on the *outer* surfaces of the arms or fore-arms. The whole surfaces affected were of a bright red colour, and many of the patches excoriated, and oozing serum; itching very intense; bowels rather costive, and tongue somewhat furred. Was in the city hospital 22 days; left there a few weeks before; got nearly well while there, but eruption became bad again about a week before he applied at the Infirmary. He was seen but twice before he left, and was absent a month. After his return, he was put on the use of Plummer's pills, one three times a day, with comp. decoct. of sarsaparilla, when an exacerbation of the eruption took place, four days after which he discontinued his visits.

Prurigo. — Of the eight cases of this troublesome and obstinate disease, seven of which the history was preserved, were more or less directly connected with derangement of the chylopoietic viscera; but, with one exception, either did not return at all after the first visit, or at least not more than once, and no satisfactory results were obtained. One patient, 78 years old, (under care of Dr. Vandervoort), in whom the eruption had existed a month, was quite well at the end of a month's treatment, after the use of rhubarb and magnesia to regulate the bowels, and the alkaline lotion.

Lepra and Psoriasis.—The only patient with lepra was one of Dr. V.'s, an English female, 25 years of age, who had been affected with the disease for 12 years, and who had tried a great variety of remedies in her own country. After a mild purgative course for a short time, with a wash of kreasote without advantage, she commenced the use of Fowler's solution; this was increased gradually to 10 drops three times a day, with the comp. syrup and decoction of sarsaparilla at the same time. A decided improvement manifested itself under this course. The solution was discontinued at intervals, and then resumed, the patient in the mean time continuing the use of the sarsaparilla. The disease then became stationary, and remained so some time. The strong tincture of cantharides was then given, and increased gradually to 20 drops three times a day, without any perceptible effect on the disease, until the patient got discouraged, and discontinued her visits. The local application of the iodide of sulphur was also used without effect.

Of the six cases of *Psoriasis*, four were of the species *P. guttata*, one of *P. diffusa*, and one of *P. palmaris*.

One of the cases of *P. guttata* was in a young man, 19 years of age; the eruption was abundant on his arms and legs, and there was also some on the body; it first commenced 18 months before. He was under treatment, at intervals, three and a half months, during about one and a half months of which time he was absent from the city. He took the bi-chloride of mercury, in doses of ⅛ gr. three times daily, at first in water, and afterwards in the compound tincture of gentian, and used a wash of carbonate of potash; there were but slight remains of the disease when he discontinued his visits. One of the other cases, was in a pregnant woman, the treatment of which it was thought best to postpone. In the third case, the patient was seen but once, and of the fourth, no notes were preserved.

The patient with *P. diffusa* was a young man, 19 years of age; both arms and legs were thickly sprinkled with it, and there were some spots also on the body. After a purgative of calomel and jalap which operated freely, he was ordered liquor potassæ, 30 drops, three times daily; to increase three drops at a dose every five days, and to bathe the seat of the eruption frequently with warm water. At the end of seven days, (during which time he had taken 30 drops three times daily) a decided improvement had taken place; the spots were more red, and entirely free from scales; his general health was very good; was able to continue at work all the time; was ordered to continue the same medicine, 40 drops three times daily, and was not seen again. The patient with *P. palmaris* was seen but once after the first visit, and hence affords us no instruction.

Pityriasis.—The only three cases under this head were of *P. versicolor*, a form of disease which has been transferred from the order of scaly diseases by Rayer, and placed among alterations of coloring matter, and described under the name of *chloasma;* an arrangement in which he has been followed by some of the later English writers on the subject. There is certainly a peculiar change of colour, (to a light brown or fawn colour) but there is, at least in the earlier stage, some elevation though slight, more or less itching, which at times, as after a meal, or violent exercise, &c. is considerable, and also a minute brawny desquamation which, however, is not seen when the disease is of a longer standing. The two cases of which an account was kept were cured by an alkaline wash, one of soda, and the other of pearlash; there were symptoms of long standing gastric and intestinal derangement in both, which were much relieved by the proper treatment. This affection is not unfrequently treated for a long time, and almost always with entire want of success, by means of internal remedies, which usually are of little or no avail against the cutaneous affection; this will generally be found to yield to a wash of potash or soda, used for some time, and more speedily to a wash of sulphuret of potash (ʒj. to Oj. water); but this latter lotion is so very offensive that patients are very reluctant to use it, until other means have failed. If all these fail, sulphur fumigations are said always to prove successful.

Ichthyosis.—One patient called with the congenital variety of this disease; he was 31 years of age; he experienced but a very trifling degree of positive inconvenience from it. No other than a palliative course of treatment was recommended, and he was not seen again.

Purpura. — But one case of this disease was brought to the Infirmary; it was a mild case of *P. simplex*, in a child four years old, and without any particular interest. It complicated rupia in two cases, as has been mentioned.

Syphiliticæ. — Of the eleven cases belonging to this class, five were in infants, and six in adults; of the latter number, three were *papular*, two *tubercular*, and one *pustular*.

Of the five cases in infants, three were well marked specimens of the congenital form, which appears in light brown or yellowish brown patches and spots over the limbs, and about the nates, &c.; in the remaining two, the diagnosis was more obscure, but they were considered of this nature. One case, in which the disease had existed twelve months without treatment, proved fatal.

One of the undoubted cases occurred in a child of a woman who contracted the disease by nursing an infected infant four years before. Two years afterwards, she was married (a second time), and at the end of nine months, gave birth to a still-born child. Within a year from the birth of that, she was delivered of a second child, which was healthy until four weeks after birth, when the characteristic eruption appeared. This child she suckled about three weeks, when she was taken ill, and it was given in charge to a nurse. To this nurse, it communicated the disease through the medium of the breast, and mother, child, and nurse were, soon after, all under treatment at the same time. Within another year, she was delivered of a second living child, the subject of this case, which was brought to the infirmary two weeks after birth, apparently healthy, and with no morbid discoloration of the skin, and no other suspicious mark than a single small, circular, brownish spot, covered with scales, near the umbilicus, and some erythema about the groins. Two small doses of hydrarg. cum creta were ordered, with a warm bath, and five days afterwards, the erythema had diminished, the scaly spot remaining the same. At the end of 23 days, when it was again brought, there were no distinct spots of eruption, but the skin had a mottled, purplish hue; its bowels were then costive, and it was ordered 5 grs. hydr. cum creta every night for four nights, and a warm bath every other night. It was then not seen until the end of nearly two months, when it was brought with a scaly spot on the foot. No medicine was given, and a week after, it returned with several well marked syphilitic spots about the upper part of the thighs. The warm bath only was ordered, and at the end of another week, the number of the spots had increased very much, and the disease had shown itself about the groin and nates, and about the face. Small doses of rhubarb and magnesia were ordered for a few days, and at the end of the following week, the eruption was still more abundant, and attended by a great degree of inflammation, and the child was very restless and fretful. It was now ordered 5 grs. hydrarg. cum creta, morning and evening, and a warm bath every evening. At the end of two days more, a very great improvement had taken place; the old spots had faded very much, and no new ones had appeared; the child was playful, and had slept better than it had for a long time previously. The same course was continued for five days more, when the powders were given at evening only; and at the end of four days, there was little left of the old eruption but the discoloration, and but one new spot. He was then not brought for three weeks, at the end of which time there were two spots on the front part of the neck. The same treatment was again ordered, and four powders given. When seen the next time, after an absence of nearly two months, there were several spots of scaly eruption on different parts, and three or four flat tubercles about the anus. The following was then ordered, ℞ hydrargyr. bi-chlor. gr. j; tinct. gentian comp. ʒij; aq. font. ℥ij-mix; teaspoonful three times daily. After this, he was very irregular in attendance; the general health remaining good, and only an occasional symptom of infection showing itself during four or five months. The same medicine was continued (except that tinct. columbæ was substituted for tinct. gent. c.,) and when ast seen, the child was healthy, and of good colour, and exhibited no sign of the eruption, except in one spot which had been irritated. Diluted citrine ointment was applied to the tubercles. This case presents several points of interest in the illustration of the syphilitic infection in infants, on which we will not dwell at present, as we propose to consider the subject more at length on a future occasion.

In a second case (treated by Dr. Vandervoort), the eruption was of a similar kind, and occupied different parts of the body and face. It first appeared on the shoulders, 3 weeks after birth, and spread from thence to the nates, and afterwards appeared about the mouth and on the chin — it was scaly in its character, of a copper-red colour. There was an ulcer over the right parietal protuberance, circular, superficial, about the size of a two-shilling piece, covered with a thin greenish scab — there was also congestion of the mucous membrane lining the nostrils. This case was treated with small doses of hydrag. c. creta, night and morning, and at the end of the 14th day, the scaly eruption had nearly disappeared from the body. The same course was continued with entire success, and when last seen (Aug. 1839), the child continued well and healthy. The infection was derived from the father, the mother never having had any secondary symptoms.

Two of the other cases were in children, one 14 and the other 12 months old. In one, the symptoms yielded readily to hydrag. c. creta; in the other, the child which was in a very cachectic state, died at the end of about a fortnight. Of the remaining case in infants, no record was kept — the result was favourable — the child was 2 weeks old when brought to the Infirmary — the infection was derived from the father.

The first case of the *papular* form of syphilitic eruption was in a female, 16 years of age. The disease was well marked, and was abundant on the face, body, arms, legs, neck, &c. — there was also superficial ulceration of the tonsils and of the posterior fauces. The eruption first appeared on the face three months before, and about 6 weeks after, on the body, arms, and legs. She had taken no medicine for it — she was ordered the blue pill, morning, noon and night, which affected her gums at the end of 6 days, although she had taken but 10 pills in the whole. The eruption soon began to fade, and at the end of 14 days, nothing was left but the discoloration. She was visited at home 8 days afterwards, and found in bed with her arms and legs and ankles thickly covered with spots of erythema *nodosum*, and a general erythematous redness of the face and forehead, the integuments of which were somewhat swollen. The spots were painful on pressure, and the seat of an almost constant stinging sensation — pulse 100, natural strength — breath mercurial, and mouth still quite sore — she was ordered senna and salts in divided doses, the frequent use of a lotion of acet. plumbi (ʒj to Oij water), and a pediluvium of warm water at night. Two days after, she was found sitting up at work — the spots had faded very much, had ceased to be painful, were but very slightly elevated, and of a dull purplish hue. The bowels had not been opened. Larger doses of senna and salts were ordered at short intervals, until some effect was produced — to be followed by castor oil, in case of failure. Four days after, she called at the Infirmary — her gums were still slightly tender — the elevation and soreness of the spots were entirely gone, the purplish discoloration still remaining. No medicine was ordered, and she discontinued her visits.

The second case of the *papular* form was in a young man, 19 years of age, who positively denied ever had primary symptoms of any kind, or ever having been exposed in any way whatever. The eruption first appeared about 10 weeks before, and was very thick over his body and limbs, and also on the penis. After some medicine to obviate a considerable degree of gastric derangement which existed, he was ordered the bi-chloride of mercury in comp. tinct. of gentian (℞. hydr. bi-chlor. grs. ij; tinct. gent. c. ℥i; aq. pur. ℥iij; mix.) Dose a table-spoonful 3 times a day. He did not call for 9 days — the whole of the eruption was then very much faded, and it had nearly gone from the penis. The same prescription was repeated, but he was not seen again.

The other case of the *papular* form was under the care of Dr. V. The patient was a married female, 20 years of age; the eruption was seated on the lower part of the back, and on the nates and thighs; her general health had suffered from the disease; she had periostitis on the upper part of the right tibia (an affection said by some never to exist with the papular syphilitic eruption), and suffered severely from pain in that limb at night; she took the bi-chloride of mercury, in doses of ⅛ grain 3 times a day, and was improving, when she discontinued her attendance.

One of the cases of the *tubercular* form was of considerable interest, and occurred in a female, 32 years of age, of loose and very intemperate habits. It was complicated with another cutaneous affection of an entirely different character, which seemed more like a severe case of erythema than any thing else; though it was found difficult to classify it at the time. It commenced (according to her account) on the head and also on the inside of the thighs, between 4 and 5 weeks before she applied at the Infirmary, and afterwards appeared at the bend of the elbows; she had suffered from nausea and want of appetite 3 or 4 weeks before it came out; and had been taking sulphur and cream of tartar. There was redness of a deep livid hue on the back of the neck, between the shoulders, and between the mammæ, and also over nearly the whole of the face, mostly diffused; and at the bend of each arm, in well defined circular patches, about 2½ inches in diameter; she said she had the same redness on the abdomen. She had also, an abundant crop of flat tubercles on the inside of each thigh, and thickly clustered on and about the external labia and the anus; they were of a dark purplish colour, from the size of a pea to that of a sixpence, some of them covered with a thin incrustation, and others partially covered with very thin scales; the whole eruption on every part itched very much; her tongue was covered with a thick yellow fur, and tremulous; she was ordered a cathartic of calomel and rhubarb, and a lotion of pearlash (ʒj to Oj water;) and gruel. This operated well, and 2 days after, she felt much better, and the eruption was very much improved; that on the body, face, upper limbs, &c., less red, and the tubercular eruption less moist. The same cathartic was repeated, with still more improvement of the eruption on the upper part of the body, &c., with an entire relief from the itching; the gastric symptoms were also much improved, and the general health much better; she was then ordered to take, 3 times a day, half a table sp. f. of the following:—℞ hydrag. bichlorid. grs. ij; tinct. gent. c. ℥j; aq. font. ℥iij-mix.; the alkaline lotion was also continued for the face and upper extremities, &c.; three days after, every symptom had very much improved. The same course was continued with tolerable regularity, and at the end of 6 weeks, there was no trace of the redness on any of the parts formerly occupied by it, and the flat tubercles were all gone, except a few on the labia; she had been using the black wash as a local application to these. A part of the time she took the solution only twice, and a part of the time only once a day, in consequence of the nausea it produced. During the latter part of the treatment, she complained that her hair was coming out, and that it fell out when she combed it. She was then ordered to wash the head 3 or 4 times a day, with the following lotion: ℞ tinct. gallar. ʒss; tinct. canthar. (fort.) tinct. capsici, á á ʒij; aq. font. ℥iij-mix. When next heard from, 5 days after, the hair had ceased to come out, and was growing again, and she had no more trouble from it. (This has since been found a valuable lotion for the falling out of the hair in cases arising from entirely different causes). The patient was seen some time afterwards, perfectly free from the disease.

The other case of tubercular eruption was of a very severe character, in an Englishman, 34 years of age. He was seen but a few times. He had been under the care of some of the most distinguished of the London surgeons, and always grew worse until the hydriodate of potash was administered, which afforded him very great relief.

The only remaining case of syphilitic cutaneous disease, was in a man, 22 years of age, under the care of Dr. Vandervoort. The primary symptoms had existed a year before. He had taken mercury, and said his mouth was very sore for three months; the sores healed, but broke out again on his going South, when he again took mercury; he then had ulcers on his legs and arms, and some on the face; he had returned from the south about three weeks before, since which he had taken nothing. He then had an eruption on his arms, covered with greenish scabs, and his face was the seat of purplish discolouration. He commenced the use of the bi-chloride of mercury in the comp. tincture of gentian, and was gradually improving, though slowly, when his face became covered with a pustular eruption; the same medicine was continued. He was then absent from the infirmary nearly two months, and stated that he had been confined at home most of the time by sickness, and by an increase of his disease, and had taken no medicine since the last prescription given him; he then had numerous ulcers on different parts of his body, and on the lower extremities, with an abundant papular eruption on his face and forehead. He was then ordered five grs. of hydriodate of potash, three times a day, and to dress the ulcers with simple cerate. At the end of five days he returned much better, and the same treatment was continued. At the end of another week, the improvement was remarkable; there was no ulceration left, and but comparatively slight discolouration. He also suffered much less from pain in his bones, and felt stronger and better in every respect. The improvement still continued four days after, when he was seen for the last time.

A Third Case of Enlargement of the Thymus Gland, occurring in a Child eight months old, and terminating fatally.*

By W. C. Roberts, M.D.

Powell, a female mulatto, aged eight months, of delicate appearance, but previously healthy, had laboured for a day or two under slight bronchitis. I saw it at 2 P.M. of the 29th of November. It had considerable fever; its pulse was 170 per minute; its respiration 60. It lay with the head thrown back, and at each inspiration and expiration, *the head received a forcible jar, or impulse,* which was remarkable. It breathed silently, with less dilatation of the alæ nasi than is common in pneumonitis in children. Percussion elicited, as I thought, a clear sound on each side of the sternum; the respiration rather, though not purely, bronchial, and mingled with some sonorous rhonchus. By 10, P.M. fine muco-crepitant rattle was heard in the trachea; it uttered a faint moan occasionally, and was extremely uneasy when seated erect; and its indifference to surrounding objects complete. The mouth was constantly open throughout the disease; the action of the heart, so conspicuous in my previous cases as to have been considered by me as pathognomonic, was not observed to be excessive. At eight A.M. it died.

Post-mortem examination in the presence of Dr. C. R. Gilman. The lungs crepitated throughout, and were considered perfectly healthy. The bronchi were *reddened and decidedly congested* in their smaller ramifications. The enlarged thymus gland extended by two long cornua lying parallel upon the trachea, from the base of the thyroid gland to the sternum, whence the enlarged body of the gland reached to the level of the fifth rib. Each lobe passed down below the edge of the lung of its own side; the left being much the largest, dipping down so as to cover the left side of the heart superiorly and completely, and the front, for at least one-half of its extent, was also overlaid. The gland adhered firmly to the pericardium, was 5½ drachms in weight, 2¼ inches in its greatest width, 3¼ inches in its greatest length, and of the usual colour and consistence. The cornua were 1½ inches long. The heart was rather large, but healthy. No further examination was made.

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* See Am. Journal of the Med. Sciences for Aug. 1837, "a case of enlargement of the thymus gland attended with *unusual symptoms*, terminating fatally." Also the same Journal for Nov. 1838, "a second case, &c."

The fact that, in less than three years, I have met with three cases of enlargement of the thymus gland occurring with acute symptoms and simulating pneumonia, would seem to indicate that it is of no uncommon occurrence; and perhaps if my professional brethren, who may favour me by perusing these remarks, should hereafter be induced, *post-mortem*, to examine the bodies of those young patients whom they may be so unfortunate as to lose with pneumonia, real or supposed, and carefully note the symptoms which occurred during life, some further light may be thrown on this hitherto unnoticed and very fatal affection.

The subject of this third case lived 18 hours from the commencement of the acute symptoms; five hours longer than that of the second, and 10 hours longer than that of the first. The gland in this was much smaller than in either of the other of the cases and remarkable for the length of the cornua, which lay along the trachea, from the sternum to the base of the thyroid gland, loosely connected to it by cellular tissue, and easily dissected off. If pressure on the nervi vagi by the cornua, were the cause of the symptoms, they should, in this case, have been marked by peculiar severity. But such was not the case. The extremely rapid breathing which characterized both the other cases, the violent pulsations of the heart which existed in them both, were absent or unobserved. The extreme frequency of pulse there mentioned was not present; yet the heart was quite as much overlapped by the glands as in my second case, which from its occurring so shortly after birth, and with such intensity, I consider to be the very archetype of the affection.

I regret that I can add nothing more of certainty to the diagnosis of this affection. Perhaps a more practised auscultator might have detected a healthy state of the lungs, or dullness on percussion below the sternum; for as the former were found healthy, and as the gland dipped down behind, and did not lie upon their anterior edges, the respiratory sounds probably did not vary much from the natural character. To me they seemed to approach that of an imperfect bronchial *souffle*. The existence of bronchitis may have added to the difficulty of discrimination. It was scarcely sufficient of itself to have caused death in so short a time, and, moreover, in the case I have described as of such intensity, none existed.

I here repeat, upon the authority of the two cases first recorded, that "the sudden invasion of extraordinarily rapid respiration, and of extensive and forcible pulsation of the heart, in a child previously healthy, or labouring under slight bronchitis only, ought to lead us to suspect the existence of a congenitally enlarged thymus gland." I may now add that a healthy respiratory sound in the lungs, or a less perfect bronchial *souffle* than occurs in pneumonia, with clearness of percussion every where but over the enlarged portions of the gland, and over the region of the heart particularly, even when the peculiar phenomena, above alluded to, are not present in any great degree, might render probable a similar conclusion. As an element in the diagnosis, the remarkable motion communicated to the head in breathing, in the case now under consideration, ought not to be overlooked.

Whether, when the diagnosis of the disease shall have been rendered easy by frequency of observation, treatment can be made of avail in preserving the lives of the interesting victims of its attack, is a question which time alone can solve. The prospect seems gloomy. In the case of the child who died when 29 hours old, the gland weighed seven drachms. This enlargement must have been intra-uterine, and some may also suppose was that in the cases of the other two who died at a later period. There is observable in the gland, when removed, (and its tissue is not erectile,) nothing indicative of congestion, or sudden distention. How then, in a case of so much rapidity may we expect to diminish the size of the cause of so much excitement? My accomplished friend and excellent pathologist, Dr. Swett, has suggested to me that there may occur, as an effect, a congestion of the vessels, (veins, query) of the lungs, which may cause death, and afterwards disappear. Facts of this kind are familiar in pathology, and if the supposition be admitted, the indication would be to relieve that condition by prompt and free depletion at an early stage. Another consideration invests with additional importance, any attempt to attain to an accurate diagnosis of this enlargement of the thymus gland. It may be that when this shall have been established with certainty, cases may occur in which the symptoms may be successfully combated, and treatment be afterwards instituted which, by removing the cause, may prevent a repetition of the attack. A result of this kind followed in a case of thymic asthma, mentioned by Dr. Montgomery, and I believe that in that of an infant child of a medical gentleman of this city, a like successful issue was obtained.

[We will take the liberty to add to the ahove case, reported by Dr. Roberts, an account of two cases that have occurred to us during the last two years. As truly remarked already, we know nothing with certainty as to the diagnosis of this affection, yet its *reality* as a distinct disease cannot be doubted. Our only course then, is to accumulate cases, however imperfect they may be in some important particulars, with the hope that they may prove useful at some future time—EDITOR.]

CASE I.— *Congenital cough; repeated and increasing paroxysms of strangulation; sudden death; enlarged thymus gland; hypertrophy of the heart.*

MARCH 12, 1838. An infant boy, 7 months old, was fat and stout, although of late somewhat neglected by the mother, who could nurse him only once a day, being obliged to work away from home. From birth he had been subject to slight cough, and to attacks of strangulation excited by the cough. These attacks had of late grown more frequent, occurring five or six times during the 24 hours; *less frequently however at night.* The child would grow blue in the face, struggle for breath, and recover itself again: each paroxysm continuing about a minute. During the interval, the child was perfectly well, except the cough: no dyspnœa; no gastric, or intestinal derangement. Last evening the child was sitting upon its mother's knee lively and well, when one of those attacks of strangulation occurred, and in a minute it was dead.

Post-mortem examination 14 hours after death, assisted by Dr. Buck. Lips violet; large livid spots about the lower portion of the back, and on the thighs: considerable rigidity of the limbs. Body well formed* and fat.

On removing the sternum with the cartilages of the ribs, the whole space beneath was occupied by the *thymus gland,* evidently hypertrophied. It was pyriform in shape, with its smaller extremity attached to the anterior portion of the trachea, commencing about midway between its laryngeal extremity and its bifurcation, and extending down in close connection with the fibrous coat of the pericardium so as completely to cover the great vessels and the heart, except a line or two near the apex, and touching the diaphragm. Its length was

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* The mother however, had remarked at the Dispensary after the child's death that it was "pigeon chested." This may have been the truth, for not suspecting the nature of the case at the time the external examination was made, no particular attention was paid to this point.

4 inches, (French) its greatest breadth 3 inches, its greatest thickness, which was at its middle, ⅞ of an inch, or 1 inch: it was divided by a long fissure into two lobes; its colour and consistence were natural. The phrenic nerve on one side, crossed the superior portion of the enlarged gland, that of the other passing under and to the side of it; one was noticed to be much larger than the other. The par vagum was not at all implicated. The heart, after raising the enlarged gland, was noticed to be also larger than natural: and on opening the pericardium, which was healthy and contained no fluid, this enlargement was found to reside entirely in the left side of the organ, the right side appearing as a sort of appendage to the left. Both auricle and ventricle were considerably hypertrophied and perhaps slightly dilated; the different orifices were free: the cavities contained no blood, but it was noticed, when the great vessels were divided in removing the heart, that a large quantity of dark fluid blood was discharged.

The fauces, the larynx,* the trachea, and the bronchi examined through the divisions of the second order, were perfectly natural. The lungs were of a pale flesh color, and, in every part, dense and firm, crepitating very little on pressure, and when cut into discharging a little reddish serum containing no air-bubbles: on attempting to tear them they were found to retain their natural resistance; they were not at all granulated.

The stomach contained a considerable quantity of curdled milk: its colour and structure were natural, except that its mucous membrane was a little softened in the great *cul de sac*. The glands of Peyer in the small intestines were hypertrophied, especially near the ileo-cœcal valve, and the mucous membrane covering them, as well as around them, perhaps a little softened. The mesenteric glands were generally enlarged. The large intestines were very much distended with gas, and contained a considerable quantity of healthy fœces: the mucous membrane was much softened and its mucous follicles very distinct. The other organs in the abdomen were healthy. The brain was not examined.

CASE II.—*Pneumonia, rapidly fatal, (in less than 24 hours); death without strangulation,; enlarged thymus gland.*

APRIL 13th, 1839. An infant aged 3 months and 2 weeks, had never been sick a day; had never experienced any difficulty of respiration, until the time of the present attack. On the night of the 11th ult., the mother noticed that the child was feverish and restless, having had a trifling cough for 2 days previously. The next day (the 12th,) Dr. Clements was called. The child then lay quiet and seemed disposed to sleep, with no apparent quickness or obstruction in the respiration, (this was carefully examined,) only the alænasi moved. There was no febrile excitement, except that the pulse was accelerated, but small. The countenance and lips were not livid. Six hours after this the child died. About 20 minutes before death, the mother noticed a "drawing" in the respiration, and a convulsive movement of the shoulders, and that the lips and forehead were blueish. The close of life, however, was tranquil and without symptoms of strangulation, the child appearing to be sensible until near the last.

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* It was thought at the examination, that there might be a slight degree of roughness and redness about the vocal chords and the ventricles of the larynx. But these, if they existed at all, were so exceedingly trifling in degree that on reflection I am not willing to admit them as facts in the case.

Post-mortem examination 20 hours after death, assisted by Dr. Clements. Chest well formed. Considerable (nearly a tea-cupful) of bloody serum in the right pleural cavity, which however did not much compress the lung; pleura, at least that portion of it covering the lung, natural. The inferior and middle lobes, and the lower third of the superior lobe of the right lung presented the appearances of pneumonia (lobular) in the first and second stage. The lower lobe of the left lung, especially the posterior portion, was in the same condition, but less advanced, and less extensively affected. The superior portions of both lungs were free from congestion, but crepitating very little.

Larynx natural: slight redness in the trachea, increasing in its lower portion and still more marked in the bronchi of the first order; while the smaller bronchi, even those passing directly into the portions affected with pneumonia were, with one exception, perfectly natural.

Heart natural; contracted; free from blood, as were also the great vessels.

The *thymus gland* evidently enlarged; its length 3 inches 6 lines (Fr.); its greatest breadth one inch 8 lines: its thickness about ½ an inch. Its shape was pyriform, and bifurcated at its superior extremity. It was attached above to the trachea, extending upward to ½ an inch from its junction with the larynx; below it was loosely attached to the pericardium, lying upon the great vessels and covering two-thirds of the body of the heart: neither the phrenic nerve nor the par vagum were compressed by the enlarged gland.

The stomach, liver, and spleen were healthy. The intestines and the brain were not examined.

The first of the two cases just detailed was unquestionably one of pure thymic asthma; and the *rationale* of the symptoms is sufficiently clear, when we remember that the enlarged gland pressed directly upon the trachea, the heart, and great vessels. It need not excite surprise, that the symptoms of strangulation were intermittent in their character, for we know very well, that other tumours also when slowly developed, as aneurisms of the aorta for instance, so as to press gradually and uniformly on the trachea, are attended with precisely the same intermission in the symptoms. How far the condition of the heart and great vessels were concerned in causing these paroxysms is not very easily determined: but while I am disposed to place the compression of the trachea in the first place, I do not doubt that obstruction to the circulation, especially in the great vessels, had also its share in aggravating their violence. The degree of this obstruction to the circulation, may be best estimated by considering the degree of enlargement in the heart, a rare phenomenon certainly in children at this age. The condition of the lungs also in this case is worthy of notice. They approached those of the fœtus before birth. The only explanation of this appearance that offers itself is that the vesicles, from not having received their usual quantity of air, had gradually contracted upon themselves; at all events the appearance of the lung indicated an imperfection of function of long standing.

The second case is less remarkable, and it seems to me impossible to say how far the enlargement of the thymus gland operated in inducing the rapidly fatal termination of the case. One thing is clear, that the symptoms during life, and still more, the degree and extent of the pulmonary inflammation as observed after death, were less marked than is common in cases so rapidly fatal.

REVIEWS

AND

BIBLIOGRAPHIC NOTICES.

I. *A Practical Treatise on the Management and Diseases of Children.* By Richard T. Evanson, M. D., and Henry Maunsell, M. D. Second edition. Dublin. pp. 483.

II. *A Treatise on the Diseases of Infants.* By C. M. Billard, M. D. Translated from third French edition, with an Appendix. By James Stewart, M. D. New-York. pp. 620.

III. *Clinique des Maladies des Enfans Nouveau-nés.* Par F. L. I. Valleix, M. D. Paris. pp. 692.

IV. *Traité des Maladies des Enfans.* Par A. Berton, M. D. Avec Notes par M. le Docteur Baron. Paris. pp. 502.

Every one who has attentively inspected the bills of mortality of the large cities of Europe, and of this country, must have remarked the immense proportion of deaths of young children; yet notwithstanding that their maladies were so continually calling for professional aid, and the consciousness that this aid was so frequently ineffectual, as evidenced by the facts above alluded to, yet the elucidation of their diseases was scarcely thought requisite. Their peculiarities till of late years were not inquired into. The important fact was unrecognised, that diseases undergo important and interesting modifications merely from the age of the subject: but this has been satisfactorily established by the pathological researches of modern observers. It is now well known, that the human system is prone to peculiar morbid derangements during one epoch of life to which it is but little exposed at another; that the same disease neither produces the same symptoms, is accompanied by the same phenomena, nor can be relieved by the same treatment in the child as in the adult—during the first few feeble months of infancy as in the decrepitude of old age. Formerly much of the treatment to which children, and especially infants, were subjected, was purely empirical. The profession it is true was in the possession of a few systematic works on the diseases of childhood, but all these, with scarcely any exception, were founded on mere symptoms, while the pathological changes to which the subjects were exposed, were altogether neglected, or at the best loosely considered to be similar or closely approximated, to those derangements which had been noticed in the adult. As Dr. Clarke has observed, "in all the works of the best writers, from the age of Hippocrates to the present, scarcely any practical information has been afforded on this subject." While we make these remarks we are aware that some most excellent observations on individual cases, or occasional descriptions of particular diseases have made their appearance from time to time, scattered through the various medical periodicals; yet it will be acknowledged that the normal peculiarities and the morbid structural changes produced by disease in new-born children, were formerly not inquired into and investigated with the same zealous spirit, or examined with the same philosophical system of rigid induction which now happily begins to prevail. It is a source of congratulation that this change has taken place — the great importance of the inquiry is fully recognised — many labourers have entered the field and already most valuable fruits have been produced. As in other parts of morbid anatomy so also in this — have the French pathologists been distinguished by their untiring zeal and industry. They have published several interesting works, among which we have selected the four at the head of this article, as being well worthy the attention of our readers.

The work of Drs. Evanson and Maunsell, we presume is already well known to a large part of the profession, as it has rapidly run through a first edition, and been favourably and extensively noticed by the principal Reviews; it well deserves the very favourable reception it has met with; its talented authors have made it strictly practical, and it is without doubt the best systematic work on the subject of which we are possessed. We should have made more frequent references to its pages in the following remarks, did we not believe that most of our readers are already acquainted with it.

The French works have one common object—that of *comparing* the symptoms of the diseases with the pathological changes observed in *post-mortem* examinations.

Among these, most decidedly, M. Billard's book takes the first rank;

we gave a short notice of it in our former number, and as it is the most complete, we shall take it as the principal text for our remarks. It was formerly observed that this is the first work that has been based systematically, on pathological researches into the diseases of children.

M. Berton in his treatise has followed the same path, and in fact states his work to be a continuation or extension of that of M. Billard.

M. Valleix claims to have pushed his observations farther and closer than the preceding authors. His account of the symptoms and morbid appearances in the various diseases of which he treats, are given with great minuteness. He professes to take Louis for his model. But we conceive that in his anxiety that nothing should be passed over, he has fallen into the other extreme; his descriptions become excessively tedious. His account of his cases drag their slow length along page after page, loaded with circumstances that frequently have no relation whatever to the elucidation of the disease, are entirely accidental, and in no way connected with, or aiding to the diagnosis; the reader consequently becomes wearied, and is too apt to pass over the very valuable facts contained in the work.

The first part of M. Billard's book treats "*Of the Phenomena which are presented upon examining externally the condition of the child.*" Doubtless one of the greatest difficulties which impede the investigation of the affections of childhood, is the incapacity of the little patient to explain the nature of his feelings and the locality and peculiarity of his sufferings. This is, in fact, a great obstacle to persons not well acquainted with the normal appearances and natural movements and gestures of infancy. But those who have had opportunities of observation, and have carefully availed themselves of them, will know that by the apparently most trivial external signs, a sufficiently accurate idea can be formed of the internal derangement of the infantile system. Where every thing is natural, where there is no moral cause acting on the physical — where no desire for or idea of deception exists — every feature — every action becomes a source of information to the practised observer — and we consider a perfect knowledge of these particulars to be so essential to the formation of a just diagnosis in infantile affections, that we shall consider the subject at some length; trusting that our readers will not think it beneath their attention.

M. Valleix lays down very long and precise directions as to the best manner of examining an infant, and very properly insists on the great difference that will necessarily present itself in many of the physical signs; according as the little patient may be examined in a calm or sleeping state, and when it is under any temporary agitation. His directions however are many of them better calculated for an Infirmary or Hospital where the sick can be visited at all hours by the resident physician, than for private practice. In the latter case, the professional attendant can but rarely see his patient more than twice or three times in the twenty-four hours; and has, necessarily, to rely upon the information derived from perhaps an ill-informed or prejudiced parent or nurse. To return however. M. Valleix points out the utility, if possible, of first examining the child when asleep, and after it has taken sufficient nourishment; the state of its pulse; its relative strength and rythm, with those of the heart; its respiration; the position of its limbs; the colour and heat of its skin and the expression of its feature — should all be carefully noted. As many of these signs will evidently vary materially from the state in which we should observe them when the child is awake, suffering from pain, agitated and alarmed by the presence and the touch of a stranger, these trifling particulars are of far higher importance than may be thought by some: it is absolutely upon them that our diagnosis will frequently depend. If the child be awake and some months old, we cannot be too quiet and gradual in our approaches; otherwise the little patient becomes alarmed, its heart beats with rapidity, it screams, throws itself into all kinds of positions, its face becomes turgid and red; in fine, it works itself into such a state of agitation that it becomes almost impossible to arrive at any satisfactory conclusion as to the affection under which it may be labouring.

Attitudes. — The limbs in a healthy infant are well known to be partially flexed, and all its attitudes easy. M. Billard observes, "the action of the flexors always prevails over that of the extensors; the flexed position of the limbs and the forward curvature of the trunk constitute the peculiar position of a newly-born infant." Many weeks elapse before the infant obtains any decided control over its muscles, particularly the extensors, and evén then its motions are feeble and ill-directed. A strong contrast to this takes place whenever the child suffers from pain. In affections of the head, even in a young infant, the hands are directed with great pertinacity to the seat of disease; in abdominal disorder the lower extremities are retracted with great force. We have so repeatedly watched *the strength* exerted in these movements, that we consider decided and forcible muscular action, especially when long continued, or frequently repeated in the same direction, as diagnostic of disorder. When we press on the abdomen of an infant to ascertain whether there be tenderness, we should be careful to occupy its attention either by the breast of its mother, by some toy, or, a lighted candle; otherwise we may ascribe its movements to pain, when they are merely the result of agitation or terror at our presence.

"*The Colour of the Skin.*"—We will not make many remarks on this at present, as it will be especially noticed under the heads of different diseases hereafter. We will just observe however, that the slight yellow tinge perceptible on the skin of infants five or six days old, and which replaces the deep red colour which they have at birth, is not a sign of disease, but is perfectly natural. Many consider it as a symptom of jaundice; it should not be so esteemed, except when it becomes of a deep orange colour, imbuing at the same time the conjunctivæ. M. Valleix particularly remarks the *excessive pallor* that occurs in pneuemonia, and œdema of the cellular tissue.

The three succeeding chapters of M. Billard's work are occupied by a description of the separation of the umbilical cord, &c. They contain many interesting and valuable remarks, but as they apply more especially to medical jurisprudence, we shall pass them over for the present, and return to them hereafter, when we consider his Essay on Viability, at the end of the work.

"*The cry of an Infant.*"—The peculiar cries of an infant are highly important aids to diagnosis; the varieties in the tone and manner of crying are very striking to those who observe them closely. We particularly recommend M. Billard's chapter on this subject to the careful attention of the student. He commences by giving a physiological explanation of crying, and divides this *mode of expression* into two parts; the true cry, or that uttered during *expiration*, and the *reprise*, or the sound produced while the air is being drawn into the lungs. Either or both of these may be modified during disease. We shall briefly mention some of these peculiarities, although it is evidently difficult to convey by words a clear idea of those changes of voice and modulations of tones, which are at once readily distinguished by the practised ear; but the peculiarity of note appertaining to the young is strongly evidenced by the fact, that a mother will discriminate the cry of her own infant among a hundred; and the same thing obtains more decidedly among animals, as every one who has noticed a large flock of sheep with their lambs will have remarked how the bleat of the young will be recognized and answered by the cry of the mother. To return, however: the *reprise*, as M. Billard observes, is not very distinct in the young infant, but it sensibly increases as the child advances in age; and when, after having cried a great deal it becomes exhausted by fatigue, and want of sleep or pain, the *reprise* then predominates, except in the cases just specified; where the *cry* is *incomplete* and only the *reprise* is heard, it would appear to be almost a certain indication of pulmonary obstruction. We hardly need now advert to the well known fact of the importance of securing by every means in our power a full and complete cry when the child is first born. This is so generally recognised, that no experienced accoucheur is now satisfied to leave an infant, until he has, if possible, accomplished this. But the great importance of this is made so evident by the researches of M. Billard that we cannot refrain from extracting his remarks:—"I have noticed twenty children where the *reprise* alone was heard with distinctness, while the cry was smothered. Six of these were born before their full time (from the fifth to the seventh month.) In three of the cases, a day after birth, the air appeared not to have penetrated the lungs; for when these were put into a vessel of water, they soon sunk to the bottom, whether they were immersed in one mass, or previously separated in parts. In three other children, prematurely born, the air had passed into a portion of the pulmonary parenchyma, but the greater part was compact, without crepitation and engorged with blood; in the remaining fourteen, the lungs were much engorged and hepatized, producing the impression that the air could not have penetrated these organs except with the greatest difficulty."

"From these cases we can draw our first conclusion in reference to the cry of a new-born child; it is in those instances in which the *reprise* alone is heard, it is very probable, that the air does not penetrate, has not penetrated, or has penetrated but very slightly into the lungs; this sign, joined with percussion and auscultation will furnish a suitable diagnosis of the disease of the lungs." Another modification of the form of the cry, is the *smothered* cry; this may be understood by its name. "The alternate motion of inspiration and expiration gives rise to a double respiratory murmur, with which there is mixed at intervals, a slight sound of voice more of less acute;" but sometimes the voice is entirely smothered and no sound is emitted. This variety would appear to be indicative of severe pneumonia, as M. Billard found that lesion to be present in fifteen cases out of eighteen that were examined, while in the remaining three, the respiration had never been established; it may, however, in M. Billard's opinion, indicate inflammation of the glottis and bronchiæ. We do not, however, agree with him that a *smothered* cry attends, ordinarily, inflammation of the *glottis.*

"*The acute cry,*" is frequently heard in laryngeal affections and is considered by M. Billard as almost diagnostic of them. We think this term is not altogether appropriate to the cry produced in inflammations of this organ; it is rather something between a whistling and crowing sound, an acute modification of the *croupy* tone. We would endeavour to make this distinction, because there is another species of *acute* cry which we have numbers of times observed in gastro enteritis, and which we can frequently distinguish even outside the room where the patient is. Every experienced physician will also have remarked the very singular acute cry of hydrocephalic children, and which was named after this disease by M. Maunoir in his Memoir on Hydrocephalus. It will thus be seen, that the cry of young children is decidedly affected by disease, and we again commend this chapter to the reader's notice, the more especially, as few writers heretofore have paid the subject due attention.

"*Expression of the Face.*"—The changes produced in the countenance by disease, so distinct from the calm and placid features of a healthy infant are very remarkable, and frequently are highly indicative of the affection under which it is suffering. The French writers before us, do not mention very particularly the individual traits or physical signs attending peculiar diseases, but content themselves by referring to the subject generally. We consider, however, the countenance to be so important an aid in the diagnosis, that we cannot pass it by without a few remarks. If we see an infant striving by every means to avoid the light, closing its eyes almost spasmodically whenever a candle be brought near it, or, to the contrary, with a dull vacant stare, wrinkled forehead and eyebrows, joined with acute screams and sudden startings, it is rendered clear, that the head is affected; whether that affection be idiopathetic or merely sympathetic, must be decided by the circumstances. If we see a child lying pale and languid, almost without motion, its mouth half open, its eyes turned heavily on any thing approaching him, he is probably suffering from an exhausting diarrhœa, while the sharp-pinched forehead, the prominent nose, the shrunken cheeks, the deep line from the external corner of the nostrils to the angle of the mouth, all denote more active abdominal disease, and perchance ulceration of the mucous membrane of the alimentary canal. We would refer our readers to some good remarks on these points in Evanson and Maunsell's work, p. 93, &c.

"*State of the Pulse.*"—This sign is very generally considered of but little value in infants, as by reason of their great irritability, the facility with which they are thrown into a state of agitation, and frequently the difficulty in finding the artery, all combine to form an obstacle to the ascertainment of the exact state of the pulse. Almost all writers have passed over this symptom, and physicians ordinarily neglect it entirely in the diagnosis of infantile diseases; yet we are disposed to think, that this opinion, prevalent though it be, is not altogether well founded. We admit that the physician cannot be guided by it in newly-born infants as he may in adults, still important information may occasionally be derived from it even in very young children; and by making use of proper precautions, not to alarm or awake the child when sleeping; not to grasp the arm with too much firmness, or oppose it in its movements, the pulse may be counted with sufficient accuracy; we can also have recourse to the temporal artery when the radial cannot readily be found. M. Valleix gives some very good directions as to the method to be followed in these cases, but unfortunately his remarks are too diffuse and verbose to be extracted.

M. Billard recognises the great difficulty of arriving at a true state of the pulse in many instances, and proceeds to remark, that the infantile pulse is generally considered more rapid than that of the adult; but he asserts that this law has very many exceptions, and gives the following data. "In forty children, aged from one to ten days, and apparently in good health, there were eighteen where the pulse beat less than eighty; in two, it beat eighty-six; in one, eighty-nine; in four, one hundred; in ten, from one hundred and ten to one hundred and twenty-five; in one, one hundred and thirty; in two, one hundred and forty-five; in two, one hundred and fifty; in one, one hundred and eighty. Thus it appears that there were as many children in whom the pulse exhibited about the same number of beats as is usually observed in an adult, as there were of those in whom the pulse beat with much greater rapidity; and I am confident they presented no symptom of disease."

"In thirty-five children, aged from one to two months, there were fourteen where the pulse never exceeded eighty to eighty-five; in one of them it was as low as sixty to sixty-two. Two had ninety pulsations; two others, ninety-four and ninety-five; five, one hundred and ten; two, one hundred and twelve; two others, one hundred and fourteen; seven, one hundred and twenty-five to one hundred thirty; three, one hundred and forty; one, one huudred and forty-seven to one hundred and fifty. We again see here, a number of children, with pulsations corresponding in number with those of an adult; but such was not the case in the instances which follow."

"In eighteen children, aged from two to three months, there were fourteen where the pulse beat more than ninety times, and in two of these it rose beyond one hundred; in two others only seventy pulsations could be counted; and in two others, from seventy to eighty. I have not been able to ascertain the pulsations of but a small number over the age of one year, but I have almost always found them more frequent than in adults."

"From the preceding details, it appears that the pulse of a very young infant is often not much more frequent than that of an adult, but that it increases in frequency, in proportion as the child advances in age; whence it follows, that it is wrong to assert in a manner so exclusive and general as is usually done, that the pulse in children is more frequent than in adults. It appears to me to be clearly demonstrated that this rule has many exceptions."

Now, if we examine this statement with care, it is almost impossible not to be impressed with the opinion, that M. Billard must have been very much mistaken in some of these cases, or that the children were some of them labouring under latent disease, or pulmonary obstruction; since we find that in several of the instances the pulse beat more than double the number that obtained in others, and we cannot conceive of any physiological law admitting of such numerous and wide exceptions, when not influenced by abnormal conditions. M. Billard does not appear throughout the work to have noted the pulse with his usual accuracy. Thus, to give one instance out of many, he says in case 27th, p. 212, that on the 10th of April, "the pulse was *slow* (*ninety* pulsations.") And a little lower down in the same case on the 13th of April, "the pulse was always small and *frequent* (*ninety* pulsations.") He here characterizes the very same number of beats, as both *slow* and *frequent!* In fact, after he has stated, as above, that sometimes the normal pulse is eighty, and sometimes one hundred and eighty, it must evidently be difficult to say what number of beats should be considered frequent in a state of disease.

M. Valleix appears to have taken great trouble to arrive at accuracy on this point, yet we think the conclusions he arrives at will surprise most of the profession. Thus out of a large number of observations reduced by various difficulties in, and objections to, some of the subjects, to thirteen, he makes their average pulsations, under the age of 21 days, to be no more than *eighty-seven.* (p. 18.) By other tables (pp. 21 et seq.) he concludes that the pulse of children continues to augment in frequency *till the age of seven months* when it is about one hundred and thirty, it then continues to diminish till the age of *six years.*

With the exception of Dr. Hamilton of Edinburgh, we believe that all observers have estimated the beat of the fœtal heart in utero at about 140 to 160 in a minute. It appears, therefore, rather singular that this number should be reduced to 90 at birth, augment to 130 at seven months, and then be gradually reduced to the adult standard. Perhaps the first change may be accounted for by the blood having to pass through the lungs; but for the remaining ones we know of no satisfactory physiological explanation. However as this is a question of facts, observation alone can decide whether these statements are well founded or not. Our own experience induces us to believe that the pulse of a healthy new-born infant of some days old is more frequent than would appear from the above results. We have always estimated it at from 110 to 115.

Feebleness of Birth is most generally produced by some disease which has affected the fœtus. M. Billard states that this is not always caused by structural disease, but is sometimes occasioned by a general feeble developement. He gives one case in support of the assertion, but we shall not dwell upon the subject, as it is presumed the fact is generally admitted. Some most interesting facts of the morbid changes produced by intra-uterine disease are recorded in other parts of the work.

We have detained our readers for some time in the first part of the work, because the importance of diagnosis will be generally recognised, and we repeat that a great deal of the matter therein is seldom met with in systematic works. We now proceed to consider, more directly, diseases and their results.

The first chapter of the second part is devoted to diseases of the skin. We shall pass over the greater part of this division very briefly, as we consider it quite inferior to the others; we have here no new facts elicited, the declared object of the work, that of giving the author's experience and observation on the symptoms of infantile disease, illustrated and explained by pathological examinations, appears almost to have been lost sight of. Most of the diseases here mentioned, for any thing that appears to the contrary, were neither observed nor studied by the writer; in fact, we suspect that they were introduced chiefly that M. Billard might propose his method of classification, which does not appear to us to be peculiarly happy, either in its details, or its general descriptions. It is disfigured by a great many faults and not a few flagrant errors. We will adduce merely a few instances, but the attentive reader will discover many. In the description of squamous inflammations, (p. 83,) he says, "That the elevations and red spots are *largely* prominent." We were not aware of this as a characteristic of squamæ. Examine the exceedingly imperfect description of the cow-pox eruption (p. 88.) take the following description of pityriasis, (p. 93.) "*Small red patches, very thin, covering superficial scabs* which are continually detached in small fragments," &c. &c., this description, we admit, we do not understand. Many of the species are put under genera to which they do not at all belong, as zona, the lineæ. We believe it to be incorrect to class *accidental* injuries as *diseases* of the skin, as burns, linear inflammations, &c. Of those diseases which are generally regarded as of more importance, and which he has considered more at length, such as erysipelas, nævi materni, measles, and scarlatina, we are surprised at the incompleteness of the descriptions, and the imperfect and meagre methods of treatment laid down; for the treatment, however, of the last mentioned disease, scarlet fever, we are happy to refer to a very valuable article in the appendix, by the translator.

As it is a most unpleasant duty to find fault, we shall pass over this chapter, regretting that it was not altogether omitted. We will now briefly consider œdema of the cellular tissue. This very singular disease is but rarely seen either in this country or England, although it is extraordinarily frequent in Paris, especially in the Foundling Hospital. Thus in the year 1826, among 777 children that were received in the Medical Infirmary under M. Baron, 240 were affected with this disease, yet it is not noticed as being at all more frequent then, than at any other time. It was formerly so extremely fatal, that in the years, between 1808 and 1811, there died 576 out of 643 who were attacked, and the mortality is but slightly diminished even at the present time, although M. Billard says that out of the 240 received in 1826, only 50 died with this affection. A great number of others died who had œdema joined with other pathological lesions.

The English writers generally describe this disease under the term of *skin bound*. Underwood considered it a spasmodic affection, and quotes as follows, from Dr. Denman: "The following symptoms," Dr. Denman observes, "have been considered as pathognomonic, or characteristic of the disease.

1st. The skin is always of a yellowish colour, giving the idea of soft wax.

2d. The feel of the skin and flesh is hard and resisting, but not œdematose.

3d. The cellular membrane is fixed in such a manner that the skin will not slide over the subjacent muscles; not even on the back of the hands, where it is usually very loose and pliable.

4th. This stricture extends over the whole body; but the skin is peculiarly rigid in the parts about the face, and on the extremities.

5th. The child is always cold.

6th. The infant makes a peculiar kind of moaning noise, which is often very feeble, and never cries like other children.

7th. Whatever number of days such children may survive, they always have the appearance of being dying."

We have extracted the above remarks, because having seen several cases of this disease, we can answer for their general correctness, except that we have usually observed the skin to be more *icteritious* than this description would appear to represent. The remote cause of this affection has been much disputed, but the most striking pathological fact is the presence of a yellowish or greenish sero-albuminous fluid in the cells of the cellular membrane, which being distended to their utmost capacity, give the idea of hardness to the touch, so peculiar in this disease, and do not permit the skin *to pit* on pressure being made. The cause, however, of this effusion does not appear even now to be satisfactorily determined. M. Breschet considered this œdema to depend on the peculiar character of the effused fluid. But this idea is combated, with some success, by M. Billard, who moreover states that, although most of the children suffering under this affection have also icterus, yet this is not universally the case; several of those he examined had decided disease of the liver, others of the lungs, others had gastro-enteritis, in some the fœtal openings were closed, in others they remained in the fœtal state, yet the majority had no other lesion but the œdema, so that, for the present, we must be content to admit our ignorance as to the essential cause of this remarkable affection. Of the treatment, as might be naturally supposed by the foregoing statement, we have nothing satisfactory to offer. Writers recommend, generally, the use of means to relieve plethora, such as suitable evacuants; it has been suggested also to make scarifications in the extremities to drain off the effused fluid, but this treatment would appear to be directed against one of the symptoms merely, and not be likely to remove the disease itself. Perhaps some good might be obtained by frictions, warm baths, and woollen clothing, to promote the action of the skin; this at least is recommended by our author.

We now arrive at the most interesting and valuable portion of the work.

"*Diseases of the Digestive Organs.*" — The author adopts the division of Meckel, who considers the alimentary canal "as consisting of the cephalic, thoracic, and abdominal or sub-diaphragmatic portions."

We pass over the history of the developement and congenital malformations of the upper portion, and shall proceed to make some remarks on

"*Stomatitis.*" — Of this disease, M. Billard recognises the following varieties, viz. erythematic, erythematic with altered secretion, (*muguet,*) follicular, (aphtha,) ulcerous, and gangrenous.

The first variety is very simple, but of frequent occurrence. It is produced by improper or too hot food, uncleanness, cold, &c. It is easily cured by emollients, and very gentle ant-acid aperients. It is of lttie consequence, but care must be taken that, by neglect, it do not pass into the other forms.

Stomatitis with altered secretion, or Muguet.— In the history of this affection, our attention is strongly drawn to the great prevalence of certain diseases in the Parisian Hospitals which are but rarely seen in other situations; we have noticed this when speaking of œdema of the cellular tissue; but it is much more remarkable with the disease under consideration. It is true we occasionally meet with muguet in private practice, and perhaps it cannot be strictly esteemed an unfrequent disease; yet among us it is far from holding the prominent place it does among the French writers. Thus we have a long and valuable article on this affection by M. Billard, and M. Valleix occupies no less than 230 pages of his work with his account of this disease, while Underwood, Dewees, and Eberle only mention it to confound it with aphthæ, and Evanson and Maunsell complete their account of it in about a single page. M. Billard says that many pathologists have confounded muguet with aphtha, he considers the essential difference to be that the former is an exudation or secretion *upon* the *epithelium*, which is found unbroken underneath, the papillæ of the mucous membrane in particular being the seat of this form of inflammation, while aphtha is inflammation and ulceration of the *follicles* of the mucous membrane. He thus describes muguet: "This affection appears under three different forms — 1st, that of very small white points, dispersed upon the tongue and parietes of the mouth: 2nd, that of various sized shreds: 3dly, that of a membrane entirely covering the tongue, or spread over the other parts of the buccal cavity."—"This excretion under what form soever it may appear, is usually preceded by an erythematic inflammation of the parts affected." —"I have examined this seat of the excretion with great care, and I never saw it under the epithelium, but always on its surface; it overspreads the membrane like mucus, of which indeed the muguet is but a morbid concretion."—"When the inflammation has made some progress, the white points unite and form small laminæ either on the surface of the tongue or on the internal surface of the lips and cheeks. These laminæ, becoming very thick, exfoliate and detach themselves, leaving in their places an inflamed surface which soon secretes materials for a new concretion."—"The disease increasing, the inflammation spreads rapidly and deeply over the whole cavity of the mouth; the laminæ of which I have spoken, quickly uniting, form a pellicle of a greater or less extent of thickness, which spread over the tongue, sides of the mouth and velum. Under these circumstances the disease is said to be confluent or malignant. These varieties are more remarkable with reference to their ordinary seat. The pointed variety usually occupies the extremities and edges of the tongue; that in laminæ appears on the internal surface of the lips and cheeks; the membraniform occurs at the root of the tongue and on the velum." It should be remarked that although this description is confined to the mouth, the morbid secretion frequently extends to any or all the other parts of the alimentary tube. For the sake of contrasting the two affections we will here extract the author's description of aphtha:—"The muciparous follicles of the mucous membrane of the mouth are invisible in their ordinary state, and remain hidden in the thickness of the membrane, but when they begin to inflame and tumify, they appear on all the buccal surfaces under the form of small white points, sometimes exhibiting a coloured spot in their centre, slightly prominent, and often surrounded by a slight inflammatory circle. These follicles are either isolated and few in number, or multiplied and spread over every part of the mouth."—"When the inflammation makes progress, the follicular points enlarge, preserving their circular primitive form; and from their central aperture there soon issues a white matter, which being squeezed by the epithelium, the ulceration of which soon commences, leaves the white puriform matter, of which I have just spoken freely exuded over the parts."—"The aphthæ take a new aspect and then commences the period of ulceration. The projecting points, of which mention has been made, are neither tubercles, as M. Gardien has said, nor vesicles, nor pustules, as has been asserted by others, but they are evidently the muciparous follicles, as their central orifice and unvarying form demonstrate. They are analogous in every respect, to those which are found in the stomach, small intestines, cæcum and colon."—"The follicle, once broken, consists only of a prominent mark; it is a superficial ulcer, with circular borders, sometimes slightly cupped, more or less tumefied, and almost always surrounded by an inflammatory circle. The borders and centre of this light ulceration often secrete a white, pultaceous matter, adhering like a small scab, ending by becoming detached and ejected with the saliva of the child."—"If the aphthæ are in great numbers and very near each other, their borders unite, the curdy matter which they excrete, spreads from one to the other, forming a bed of greater or less extent and thickness. It is then that aphthæ are confounded with muguet, but they may always be distinguished, in considering the developement of the inflamed follicles, and the solution of continuity which does not exist in the latter disease."

Thus the pathological distinctions of these two affections are very lucidly drawn out, and we believe M. Billard has the merit of being the first to point them out to the profession: we will turn a moment to M.

Valleix's observations on *muguet*. He remarks that this disease is of the highest importance, on account of its frequency and dangerous tendency; he gives an analysis of twenty-four cases which he has carefully observed, but he is unfortunately so diffuse in his descriptions that it is almost impossible to make any useful extracts. This disease is so frequent in the Hospital (des Enfans Trouvés) that it appears by M. Valleix's statement, that one-fourth of all the children admitted into the Infirmary, while he was engaged in observing disease there, were attacked with it.

With respect to its general symptoms, Messrs. Billard and Valleix are entirely opposed to each other; the former stating the pulse as natural or even slower than normal, and particularly mentions "that fever is hardly ever manifested," while the latter places among the prominent symptoms, "a manifest acceleration of the pulse, from 116 to 136 and 140 beats," (p. 206) and mentions general reaction as ordinarily occurring. In those cases which have fallen under our own observation, the morbid secretion has been only one of the symptoms, and we have scarcely looked upon it as the principal one; there have usually been tenderness on pressing the abdomen, with more or less of a tympanitic state; diarrhœa, erythematous inflammation of the nates and in short all the signs that the real disease was slight gastro-enteritis. In looking over the cases given by M. Valleix, we find that many of them exhibited the symptoms we have just mentioned. He also gives one, which we presume must be merely a singular coincidence, or at all events we are unable to trace any physiological connection between the parts in which the disease is principally situated and the symptom in question. He states that in twenty cases out of the twenty-four he observed, there were *ulcerations either of the ankles or heels.*

The duration of the affection is about seventeen or twenty days. M. Valleix considers that the prognostic must be decidedly unfavourable, and states that of one hundred and forty infants attacked by this disease, one hundred and nine have sunk under it, in the wards of M. Baron; and in the cases which he himself collected, twenty-two died of the twenty-four. We are happy to say, however, that we have witnessed very different results in private practice. With respect to the treatment, the French writers confine themselves to various lotions and gargles of borax, alum, chloride of soda, &c., with mucilaginous decoctions for the mouth, but as we have before hinted, this state of the buccal cavity is merely secondary, and the condition of the principal organs must be our chief consideration; the application of leeches either to the abdomen or near the anus, warm baths, gentle aperients, in short, mild antiphlogistic treatment and regimen, will generally produce favourable results in those cases at least, which fall under the physician's notice in private practice; the local remedies above-mentioned, however, will be found useful aids, and in fact will be necessary, to satisfy the minds of the parents and attendants.

(*To be continued.*)

J. C. B.

The Stomach in its Morbid States; being a Practical Inquiry into the Nature and Treatment of Diseases of that Organ; and into the influence they exercise upon the origin, progress, and termination of Diseases of the Liver, Heart, Lungs, and Brain. By LANGSTON PARKER, Member of the Royal College of Surgeons, and Fellow of the Royal Medical and Chirurgical Society of London, etc. (Republished in Dunglisson's Medical Library, Vol. III.)

MR. PARKER remarks with truth, that he has presented the public with a work materially different from all which have preceded it on the same subject, and we must give him the credit of filling an important void which existed in our knowledge of the stomach in its morbid states and sympathetic affections. We agree with him, that in selecting for elucidation the primary morbid conditions which precede organic change, and ultimately produce incurable disease, he has selected a subject vastly more important in its practical bearings than that of organic change itself.

The title of the work announces the extent of the field to be occupied, and the general plan to be pursued, and we feel that we need offer no other guarantee of the correctness of the course followed than the fact, that his investigations are founded on the only true basis of positive medical knowledge, pathological anatomy. With this for a basis, he promises us some clew to the labyrinth of jargon, confusion, and contradictions, in which the subject of indigestion, dyspepsia, &c., has been involved by those who have adopted symptoms alone as their guide. By the aid of a work like the present, we are enabled to solve the apparent mystery of the recommendation of leeches and gum water on the one hand, and of brandy and beefsteak on the other, for diseases with the same name.

In the investigation of his subject, our author has laid under valuable contribution the researches of men deservedly high in reputation for pathological knowledge, while his own observations have afforded him the means of throwing valuable light on some parts of it which had not received the share of attention they deserved. Abercrombie, Broussais, Andral, and Louis, have dealt more with organic lesions than with primary morbid conditions, while the morbid sympathies of the stomach and bowels, have been passed over in comparative silence by all writers except James Johnson.

Our author commences with the remark that the stomach presents *two primitive morbid states*; the first consisting in lesions of its sensibility, and the second in lesions of its circulation; the latter comprising those various affections termed inflammatory, and which may vary from a mere increased fulness of blood, not tending to destruction of parts, to the different forms of inflammation, whose continuance is necessarily followed by organic change.

Of the diseases affecting the vascular system of the stomach, the most simple forms are characterized by *morbid fulness of blood in the mucous coat*, which interferes with the functions of the organ, and thus interrupts digestion, and if unchecked, ultimately lays the foundation of inflammatory disease. This state results from irritation, and the most frequent sources of this are dietetic errors, though it may occur as the consequence of any disease, or during its progress. The only danger resulting from this state of the stomach is, that repeated irritation may convert a state of congestion into one of inflammation. This state may vary in situation, or occupy a more or less extensive portion of the stomach; and hence may be attended by symptoms varying in intensity, and by sympathies more or less numerous, the former of which may vary from mere distention after food, to constant vomiting attended with thirst, dull pain, fever, and head-ache. This is the form of disease commonly known under the name of gastric irritation, indigestion, and dyspepsia, and called by the French *embarras gastrique, digestion laborieuse*, &c. It may be temporary and of short duration, or by frequent recurrence, may become permanent. The following are the principal general symptoms attending this state, as furnished by Mr. Parker: constant uneasiness in the epigastrium, increased by pressure and taking food; meals succeeded by distention of the stomach, flatulence, nausea, and occasional vomiting; cough, occasional hurried breathing palpitation an accelerated pulse; partial head-ache, with giddiness and indistinct vision; confined bowels, scanty and high coloured urine; tongue moist, coated, red at its point and edges, with an elevated and intensely vivid state of the papillæ. To these may be added in different cases, and in different individuals, thirst, general feelings of lassitude, pains in the chest, back, shoulders, or upper part of the abdomen; general pulsations, more marked in the epigastrium, and synchronous with those of the heart; heat in the palms of the hands or soles of the feet, flushing of the face, co-existing with certain local symptoms in the stomach alone, as pain, nausea, vomiting after food, with most distressing flatulence, and feelings of distension about the stomach, amounting almost to suffocation.

This is a state of the stomach called hyperemia of the stomach by Andral, and which Broussais and his disciples contended to be an inflammatory instead of congested state of the mucous membrane, a position, however, found not to be true, as well by its transient duration, and by the effect of remedies, as by autopsic evidence. This state is never fatal, and the pathological condition can, of course, rarely be learnt, except in cases of individuals who have died during its continuance, of other diseases, a satisfactory case of which is given by our author.

In the case of a man aged 40, who died suddenly with all the ordinary symptoms of indigestion, the mucous membrane of the stomach was found vividly injected in patches; and this state of the membrane was also shown after undue excitement in the experiments of Dr. Beaumont, which have been before the profession several years. Other changes than mere morbid fulness of blood are necessary to constitute true inflammation.

Both the local and constitutional symptoms of this state will depend on the degree of congestion and its extent. The former class are frequently very slight, and the latter often entirely absent; still, it must be remembered, that repeated attacks of irritation producing congestion, may lead to actual inflammation. It is consoling to reflect that, even after its long continuance, the stomach may return to its healthy state under a proper plan of diet and medication. When neglected or ill-treated, however, it may as before remarked, end in true inflammation, or by its constant irritation, induce disease by sympathy, in other organs most susceptible, as the liver, the brain, the heart, and the mucous surfaces of the bronchiæ.

This state of vascular irritation of the stomach accompanies all inflammatory and febrile diseases in a greater or less degree, and has an important practical connection with the administration of remedies in the progress of diseases of every kind. The stomach being the medium through which all remedies taken internally act, its state must always be carefully investigated before their exhibition, lest they aggravate the general symptoms, instead of alleviating the particular one to the relief of which they are directed. The neglect of this simple precaution has doubtless led to the failure of many valuable therapeutic means, and will probably go far towards revealing the discrepant and indeed contradictory accounts of authors as to the value of particular remedies; this is particularly true with respect to the use of irritating and stimulating diaphoretic and diuretic remedies.

This state of vascular irritation frequently occurs during the convalescence from acute disease, probably owing to dietetic errors, and is doubtless the cause of many of the relapses which take place; the slow progress of the patient towards recovery being attributed to debility, and fuel being thus added to the flame by the exhibition of tonics to counteract this supposed state of the case.

This congested state of the mucous membrane is also found at the invasion of the eruptive and continued fevers, probably owing to the accumulation of blood in the great veins of the epigastrium during the cold stage, and probably lays the foundation for the aggravated gastric or gastro-enteric accompaniments of fever which sometimes lead to a fatal result.

A *deficiency in the supply of blood* in the mucous membrane of the stomach occasionally produces all the symptoms of vascular irritation which we have found resulting from an *excess* in its quantity, such as flatulence, fulness, tenderness in the epigastrium, with pain and weight after food. This is observed after the loss of large quantities of blood, particularly from parturition, or from abortions, and also after profuse menstruation. This is a law of pathology quoted by Andral, and Dr. Graves has also recognised a form of stomach disease dependent on the same cause. Our author furnishes several interesting cases in point.

We will next examine with our author, more in detail, the symptoms and sympathies dependent on the primary forms of vascular irritation of the stomach.

1. *The Tongue.* — Those who are accustomed to look to this, as is the almost invariable custom, as the index of internal derangement, will probably, hardly be prepared for the fact stated and confirmed by the highest authority, that its state bears no strict relation to the degree of disease or irritation existing in the gastric mucous surfaces, and that, taken as an isolated symptom, it will afford no certain or even probable data on which to act in relation to the pathological condition of those surfaces. The observations of Mr. P. on this point are corroborated by the statements of Andral and Louis. Our author thus describes its different states, and their more common accompanying symptoms. The most common and uniform state is a contracted tongue, of a dry appearance, coated in the centre, and vividly red at its point and edges, with the papillæ developed, and of a more vivid colour than the red surface on which they are placed; a condition commonly coinciding with the

ordinary and more usual symptoms of distension and weight in the epigastrium, nausea and vomiting. In another condition of the tongue, the coating is spread over the whole surface, through which the papillæ appear intensely red and vivid, the coating extending to the very edge of the tongue, with merely a red line at the point and edges. With this state, the sensibility is gradually more developed, and we find despondency, languor, and faintness, with indescribable feelings of uneasiness in the epigastrium, which are brought on and increased by pressure. In a third state, the tongue is red and smooth; the papillæ have almost disappeared, and there is a coating in two distinct lateral layers, one on each side of the tongue. This, our author says, in most cases indicates a far more serious disease than the other two, and should always excite suspicions of a grave disease of the stomach. With this state of the tongue, the epigastrium will commonly be found hard and resisting, indicating a thickened or schirrous state of the membranes entering into the composition of the stomach; notwithstanding all this, however, we must bear in mind, that a clear and moist tongue may be found with most urgent symptoms of gastric irritation. Sometimes, on the other hand, we meet with an intensely red tongue with aphthous spots, which is purely a local disease, and not symptomatic of any form of gastric disturbance.

2. *State of the Epigastric and Hypochondriac regions.*—The symptoms denoting a state of vascular irritation of the mucous membrane of the stomach, which a careful examination of the regions of the spleen, stomach, and liver, not uncommonly reveals, are chiefly fixed pain, fulness, heat, and distinct tumefaction. Fixed pain may occur on the left of the sternum, deep in the left hypochondrium, in the epigastrium, or in the right hypochondrium, which several seats of pain are generally indicative of the seat of the complaint. We must beware of being deceived by the state of sensibility in the centre of the epigastrium, since most persons are sensible to moderate pressure in this situation. Fulness in the epigastrium and left hypochondrium is commonly attendant on the primary stages of the disease, and resisting hardness and dull percussion on the latter periods. Fulness and distension sometimes exist to a distressing degree. When much gas is evolved during digestion, the sound over these regions is clear on percussion. The temperature is always elevated, particularly in the centre of the epigastrium. There is commonly distinct tumefaction in the left hypochondrium, apparently dependent on a congested state of the spleen, after fits of repletion in individuals with habitual symptoms of chronic gastritis. Nausea at different periods after taking food, is an almost invariable attendant upon inflam-

matory indigestion, and is sometimes the first indication of complaint, and together with vomiting, often continues for years without any other marked symptoms. These may co-exist, either with or without pain, and even without any uneasiness or tenderness about the epigastrium or hypochondria, and present the only indication of disease. Constipation is most usually present; but, in some states of both incipient and confirmed inflammatory disease of the stomach, the bowels are either regular or inclined to relaxation, occasionally there are alternations of constipation and diarrhœa, the latter state occurring in the later stages of the disease from an extension of it to the small and large intestines. Pulsations and tremulous motions in the epigastrium commonly attend on incipient gastritis; these are sometimes evanescent, and at other times, continue through the whole duration of the disease. They are sometimes only evident to the patient, but at other times can be perceived by the hand, and by the eye.

3. *Organs of respiration.* — The intimate sympathy between the stomach and the respiratory organs frequently connects morbid states of the latter with a diseased condition of the former. This influence of a diseased stomach on these organs has already engaged the attention of several writers on this subject, while others have denied their reality. The affection of the respiratory organs is manifested by a short dry cough, which is sometimes the only symptom, but which may be accompanied by expectoration of frothy, bloody, heavy, discolored mucus, and attended by pains in the sternum, epigastrium, hypochondria, or some points of the thoracic parietes. Our author has seen acute pains, like those of pleurisy, supervene upon this gastric disease, and evidently produced by it, and says, that he daily acquires more conviction that many persons ultimately perish from chronic bronchitis produced by chronic gastritis, and of which the first symptom is a short dry cough, a state which, he says, is usually rendered much worse by the stimulating expectorants given to relieve the pectoral disease.

Accelerated respiration, with or without cough, is another symptom found connected with gastric disease, and in children, is sometimes the most marked symptom of gastritis. In such cases, auscultation is frequently the only means of distinguishing this from the same symptoms depending on actual disease of the lungs or their membranes.

4. *The pulse and heart* are frequently most decidedly modified in their action by an inflammatory condition of the mucous membrane of the stomach. The heart may be affected by irritation in the stomach in many ways; by mere increased impulse, by occasional intermissions of its pulsations, or by irregular and tumultuous motions, and even an ac-

tual physical sign of disease may be present, and yet the heart be found perfectly healthy after death. The pulse is also liable to occasional variations, which are sometimes independent of the action of the heart, and which manifest themselves in a double or triple motion of the artery to each contraction of the ventricle.

5. *The brain and senses.* — The symptoms manifested in the brain are stupor, giddiness, and confusion of thought. There is sometimes a great degree of mental excitement, and at other times, as much despondency, a difference depending very much on the natural constitution of the nervous system, and its susceptibility to impression. There is sometimes but little affection of the head, and at other times, a constant pain seated in the temples and forehead. Horrible dreams of a peculiarly vivid and distinct character are commonly present. The excitement of the brain sometimes approaches complete delirium, and occasionally terminates in lunacy or mania. In the senses, there is most commonly either a diminution in their accustomed degree of acuteness, or an exalted and depraved exercise of it. The hearing is either dull, or acutely sensitive; in the functions of the eye, there may be dimness or cloudiness of vision, or hallucinations of different degrees of intensity. These states are not commonly found, and are chiefly owing to morbid states of the sensibility of the organs in which they are met with.

6. *Local pains.* — These may exist in parts of the thoracic or abdominal parietes at the same time with pain or uneasiness in the epigastrium, or this may be entirely absent. Pain in the centre of the sternum with soreness of the skin in this situation, and absence of uneasiness in the epigastrium, is a very common symptom. These pains may also occur on either side of the sternum, in its lower half, in the mammæ, in both shoulders, under the scapulæ, in the centre of the back, and in the throat with difficulty of deglutition, and also with shooting pains, in certain cases, on almost all points of the lower part of the chest. These pains may sometimes resemble pleurisy and pneumonia, and when coexisting with accelerated breathing or cough, the stethoscope alone is our safeguard in diagnosis.

Our author next treats of *confirmed* inflammatory affections of the stomach, the passage into which from the mere hyperemic state is, as he remarks, very easy, and the shades which separate them very faint. In fact, the symptoms of the congested condition of the mucous membrane of the stomach are sometimes more marked than those of real inflammation; in the latter, there being occasionally few other symptoms of trouble than obstinate constipation, with dull pain in the epigastrium, hardly perceived till the patient's attention is directed to it; these, with an anxious cast of countenance, slight emaciation, low spirits, and slight flatulence after food, being all that denote the complaint,

He first studies those forms of these affections accompanied by a *peculiar condition of the tongue,* repeating the remark of the absence of any direct relation between its state and that of the stomach, and adding, that we may have a clean tongue with a diseased stomach, a diseased tongue with a healthy stomach, or disease co-existing in both organs, but independent of each other; which he illustrates by cases, and confirms his own opinion by the authority of Andral and Louis.

He does not regard an *aphthous and ulcerated state of the tongue* as often coinciding with chronic gastritis, though it may do so, and in that case, is commonly a very serious symptom, and usually accompanied by a depressed state of the vital powers generally; it may however, be purely local, and unconnected with any disease of the stomach. It is very important to ascertain with precision the exact state of the case, as it may prove fatal, if the complication with gastritis exists and is overlooked.

A *peculiar sensibility of the tongue* is sometimes indicative of gastric disease. Two cases are mentioned, in one of which there was a peculiarly sensible and painful state of the tongue, accompanied by itching, which was extremely distressing; in the other, the symptoms of gastritis were preceded and accompanied by an exalted state of sensibility in the tongue, and a constant sensation of pricking, in both of which the tongue was moist and clear.

He alludes to one condition of the tongue as almost invariably an index of gastric irritation of an inflammatory kind; it is when this organ, not materially changed in other circumstances, presents, at the point and edges, a number of vividly red points, resembling grains of vermillion scattered over the tongue, which appear to be the papillæ enlarged, and supplied with an increased quantity of blood. When there is any coating upon the tongue, the brilliant papillæ are seen uncovered by it. When no actual derangement of the stomach exists at the time, we may always conclude that there is a strong predisposition to it.

Of the *symptoms* most *particularly referable to the stomach itself* in confirmed chronic gâstritis, which are next passed in review, the most important are loss of appetite, pain, distension, anomalous nervous symptoms, nausea, and vomiting. Frequently the loss of appetite is but slight, and patients are deceived as to the degree of disease. The distension sometimes produces a sense of choking amounting to suffocation; sometimes a burning heat follows a meal, compared to that of a "hot iron;" at others, acute lancinating pain, the seat of which is variable, and also, at times, there is a degree of uneasiness which is not appeased till the whole of the food taken has been rejected. In some cases, indescribable feelings of sinking and depression are experienced in the neighbourhood of the stomach, which are sometimes brought on or aggravated when pressure is made on the epigastrium ; these feelings are sometimes relieved, and at other times, immediately aggravated, by taking food. The *seat* of pain in chronic gastritis may be the throat, the centre of the sternum, various points of the surface of the chest, under the prominences of the ribs on either side, or in the dorsal portion of the spine, or under the scapulæ. The most common seat is the centre of the epigastrium itself, varying from mere uneasiness to a dull constant aching, increased to acute lancinating pain on the aggravation of the gastric symptoms, or from irritating or stimulating diet. Pain in these affections is not necessarily felt in the stomach itself, nor is pain a pathognomonic symptom of them. It is commonly found at various points of the upper part of the abdomen ; sometimes evidenced by a sense of constriction or binding ; at other times by stinging, lancinating pains felt as low as the umbilicus, in the belly, or in the chest, upwards as far as the mammæ, but more particularly on the left side. There is sometimes pain deep under the ribs in the left hypochondrium, which is sometimes accompanied by a congested state of the spleen, so great that a distinct tumefaction is discoverable. When the mucous coat of the pyloric portion is inflamed, there are sometimes sympathetic pains shooting into the region of the liver, under the right scapulæ, and to different parts of the right side of the chest, which are very apt to mislead by leading to the suspicion of a diseased liver. Distension, fulness, or flatulence accompanying or immediately succeeding a meal, is one of the most common symptoms of an inflamed stomach, and occasionally occurs after the smallest quantity of food. This state of distension is particularly marked and frequent where the gastric disease is consequent upon an affection of the heart.

Chronic vomiting, though sometimes existing without any affection of the stomach itself, is sometimes the only symptom indicative of an inflamed state of that organ, and may last three, six, or more months, and even two or three years. Vomiting is a much more common symptom in the earlier stages of inflammatory diseases of the stomach than in its confirmed and chronic condition. It sometimes occurs without pain, and at other times, is attended by internal pain shooting to various parts of the abdominal or thoracic parietes. When change of structure has taken place, vomiting is again more apt to recur, and therefore, as a symptom of chronic gastritis, is more common at the commencement and at the termination of the disease. The matters vomited may consist of blood, food, or bilious matters. As an isolated symptom, vomiting by no means indicates inflammation of the mucous coat of the stomach; but, in conjunction with others, demand great attention. It may arise from lesions of the nervous influence of the stomach, that organ itself remaining healthy. The pain attending chronic gastritis is generally dull and obscure, unless it be complicated with a degree of nervous excitement approaching, in some measure, the character of neuralgia. When the nervous system is highly irritable, the pain after taking food is sometimes very violent. It is well established, that neuralgic pains are sometimes associated with inflammatory symptoms of the stomach, either accompanying or succeeding to them, and sometimes becoming more severe as the inflammatory irritation subsides. In other cases again, inflammation comes on after a long continuance of the nervous affection.

Our author next proceeds to the third general division of his subject, *affections of the stomach characterised by derangements of its sensibility.* That many diseases of the stomach consist of a purely morbid state of the sensibility of the gastric nerves, without the association of any inflammatory action, is well known to practitioners, and has been ably illustrated and fully proved by Dr. James Johnson in his work on the Morbid Sensibility of the Stomach and Bowels, to which our author refers his readers for the primary forms of this affection. Such cases were doubtless afterwards confounded with inflammatory by Broussais, while Barras, in his work, "Sur les Gastralgies et les Enteralgies," or Nervous Diseases of the Stomach and Intestines, has classed some cases under this head which were evidently inflammatory at their commencement, and were rendered nervous by the treatment pursued, which was that of large local depletions. It is beyond a doubt, that there are certain forms of disease of the stomach which terminate fatally, in which no organic change can be detected in the stomach, or in any other organ connected with it, and which can be referred only to a diseased condition of the nervous powers of the stomach. Andral gives a remarkable case of this kind, and Abercrombie has also recorded one.

Affections of the stomach in which derangements of the sensibility are the prominent features, may be either acute or chronic, and may appear under a great variety of forms. They are sometimes of long standing, and are attended, like organic diseases generally, by progressive wasting of the body; at other times they come on suddenly, and yet are purely nervous. They are also accompanied by sympathetic irritations of other organs, and in many instances resemble diseases of an inflammatory character, and yet are aggravated by a treatment exclusively antiphlogistic. It is very common for them to succeed large or repeated hemorrhages; such cases are best and most speedily cured by large doses of preparations of iron, and especially by a combination of carbonate of iron with the powder of columba.

Derangements of the sensibility of the stomach sometimes succeed to long continued indigestions of the inflammatory kind which have yielded to antiphlogistic treatment, and appear under the form of pain after food, distension, nausea, vomiting, uneasy sensations, and beatings in the epigastrium, with variable conditions of the bowels and sympathetic affections of other organs, as hurried breathing and cough, palpitations, giddiness, a copious flow of thin pale urine, or a scanty discharge loaded with amorphous deposits. Sometimes nervous affections succeeding inflammatory, present nearly the same symptoms as those of inflammation; and the change in the character of the disease can only be ascertained by the effect of remedies, — while, in other cases, they are of a new character. Sometimes these affections are combined with an inflammatory state of the stomach, even on the first appearance of the disease, and hence there are frequently many symptoms in protracted and severe forms of indigestion of inflammatory kind, which do not yield to antiphlogistic treatment. These considerations are of great practical importance in enabling us to adapt our remedies to different states, as well as different stages of disease. Sometimes antiphlogistic treatment must precede tonic remedies, and at other times, a combination of treatment from the commencement, proves highly useful — in the latter class, either a tonic course, or an antiphlogistic one, separately employed, will aggravate the disease.

The sympathetic affections of other organs, dependent on this form of disease, are seated most commonly in the lungs, the heart, the kidneys, or the brain; in the latter, giving rise to that well-known result of despondency, impaired judgement, and mental excitement, known under the term *hypochondria;* accompanying this functional affection of the brain, is a similar species of derangement extending to the nerves of the special senses, producing false impressions both upon the eye and ear.

The great point in the *treatment* of this state of extreme morbid sensibility attended by great despondency, is to remove all sources of irritation from the stomach, both in the form of food and medicine. The smallest portions of the former may be first tried and gradually increased, and should be of gruel, as a table-spoonful at a time; or some kind of farinaceous food, made with water, and not milk, may be given at longer or shorter intervals, as the stomach can bear it. The best medicines, if the stomach will bear any, are a few drops of the liquor opii sedativus in lime-water, or one quarter, or one-sixth of a grain of the acetate of morphia, with a few grains of carbonate of soda. To these means should be added a succession of blisters to the epigastrium, which should be small, and suffered to heal, and then be re-applied. Large irritating blisters, and particularly every form of application of tartar emetic, should be avoided. This class of cases cannot be treated with too much caution, nor watched too closely. In every form of disease of the stomach, whether in its primary or its advanced stage, it is of the greatest importance to ascertain whether the symptoms depend on nervous or on vascular irritation, and the relative proportions which these two states of excitement bear to each other, and the degree in which each is developed, must form the basis of all rational treatment, both medicinal and dietetic. For the purpose of exhibiting in a concise form the distinctive marks between these two states, our author has copied the table of Jolly, arranged for this purpose, accompanying it with comments on points in which his own experience has led him to differ from that author. For these, we must refer to the work itself; indeed, we find the work so rich in practical facts, and itself so much a compend of knowledge on this important branch of medicine, that we have already transferred more, proportionally, to our pages, than we shall find room to do of the remainder. We will merely add, before leaving this division of our subject, that the symptoms of nervous and vascular irritation of the stomach are sometimes so similar, that even the practitioner the most experienced in diseases of this kind, is occasionally at a loss to decide upon their precise pathological character, and sometimes the results of treatment are the only guides as to their nature. Occasionally, too, the symptoms are so blended as to render the diagnosis difficult, and the treatment embarrassing. One set of symptoms may precede the other, or one may be added to the other, after the continuance of the disease for some time.

Mr. Parker next describes a third general class of affections of the stomach, those characterized by a *morbid state of its secretions* — a class resembling the other two, in some measure, in its symptoms, but differing from them in its pathological character, and aggravated by the modes of treatment proper for them. This form of disease has been noticed by Abernethy and Hamilton; and also, on the continent, by Stoll, Tissot, Finke, De Larroque, and Andral. Broussais and his followers deny its existence, except as the consequence of inflammation.

The cause of this affection is a morbid condition of the secretions of the stomach and liver, which, by their action upon the peculiar sensibility of the mucous surface of the stomach, give rise to various forms of disease, more or less acute, either in the stomach itself, or, by sympathy, in other parts, more particularly the brain, the lungs, and the heart. This form of disease is called "*embarras gastrique*" by some of the

French pathologists," and it has also been termed *a saburral state* of the stomach. Andral describes a similar state of disease dependent on a morbid condition of the secretions, under the name of "*gastrorrhœa.*"

The symptoms of this form of gastric disease resemble, in some respects, those of active congestion of the mucous membrane, or some forms of inflammation, and may be divided into those referable to the stomach itself, and those exhibited in various sympathetic affections of other organs.

In secretory irritation of the stomach, the *tongue* is generally broad, rather pale, and moist, not contracted, and without increased redness at its point or edges. The papillæ are not elevated, enlarged, nor very vivid in their appearance; the coating of the tongue is thick, and of a dirty white or yellowish colour. The *epigastric region* is full, but indolent; hardly sensible or tender on pressure, unless the disease be of long standing. If associated with increased vascularity of the mucous membrane of the stomach, the epigastrium and hypochondria acquire increased heat, and become more sensible, and tender on pressure. When thus combined with active congestion or inflammation, the tongue becomes contracted, red at its point and edges, the papillæ vivid and enlarged, and the other symptoms of that form of disease, as before enumerated, appear. This state of secretory irritation may also be combined with a variety of nervous symptoms, these symptoms evidently arising from the presence of an increased quantity, or morbid quality of the secretions of the stomach, acting upon the peculiar sensibility of its lining membrane. These forms of disease sometimes assume a purely chronic form, and simulate confirmed inflammatory disease, and yet consist entirely in a disordered state of the secretions. In this disease, the sympathetic affections of the respiratory organs may exhibit themselves in the various forms of acute pains in the chest, like those of pleurisy, hurried or irregular respiration, cough, and in frothy, mucous, or bloody expectoration, to so great an extent as to lead to the belief that they are actually dependent on organic disease of the lung.

Secretory irritation of the stomach exists with two entirely opposite pathological conditions of its mucous coat; one, in which this membrane is of its natural and healthy colour, or even paler than natural; and a second, in which it exhibits marks of active congestion or inflammation.

Gastrorrhœa, as described by Andral and Roche, is a morbid condition of the stomach, which consists in the secretion of an excessive quantity of mucus from the lining membrane of the stomach. This secretion may be merely increased in quantity, or may, besides, present various alterations in its chemical composition. After death, a thick layer of adhesive, slimy mucus is commonly found exhaled on the surface of the mucous membrane of the stomach, whilst this membrane does not present the least traces of inflammation. It therefore exists apart from inflammation, but in certain circumstances may succeed to it, and in other cases still, it is dependent on, or coincides with, a true inflammation. It is also occasionally found accompanying purely nervous diseases of the stomach — it is then not a disease but a symptom. It is only to be considered a primitive morbid state when it exists without any appreciable vascular or nervous irritation, which is the form most commonly met with.

The *symptoms* of gastrorrhœa are to be sought for in the stomach itself, or in the sympathetic affections of other organs. The epigastric region is sometimes indolent, at others, hot and tender; weight and constricting pains exist in the stomach, and nausea, varying in its duration and the period of its occurrence; coming on after meals, or between them, and continuing for an hour or two, or during the whole day. In many persons, this nausea is relieved by eating, particularly of high seasoned dishes, and only recurs again when the period of digestion is finished. One of the most common attendants of this disease is a vomiting of quantities of adhesive, slimy mucus, which commonly takes place early in the morning, and many persons are unable to take food till the stomach has discharged the mucus secreted during the night. The vomiting may come on at various periods during the day, but it most commonly appears when the stomach is empty, between meals, and not immediately after them. It may continue for a long period, and apparently not be attended with any serious consequences. It sometimes occurs daily for months, without loss of appetite or of flesh.

The *tongue* is generally broad, pale, and flabby, or loaded with a thick fur, but may become red and contracted, if the disease be combined with vascular irritation or inflammation. There may be constipation, or a harrassing diarrhœa, and there is sometimes an alternation between these two states. The *pulse* is scarcely affected in the simpler forms of the disease. The *sympathetic* irritations, excepting *cough*, which is commonly present, are not so well marked as in other forms of gastric disease. In many forms, the *secretions* remain without any marked change; but in other cases, they are intensely acid, and contain large proportions of acetic and muriatic acids.

Gastrorrhœa is a disease peculiar to adult age, and has for its causes moral impressions, and an over-stimulating or too relaxing diet; anxiety, or strong mental impressions, or excessive bodily fatigue will produce attacks in those predisposed to it. It has been said to be more frequentin persons addicted to the use of wines or spirituous liquors, particularly in those who are in the habit of taking them fasting.

The *treatment* of gastrorrhœa must be varied to suit its particular form and the nature of its combinations. When primary and uncombined with either nervous or vascular irritation, it commonly gives way to warm aperients, followed up by bitters and the mineral acids. Purgatives are sometimes entirely useless, particularly when there is diarrhœa; in that case, emetics have been found to be signally beneficial. If the disease be dependent on, or associated with morbid conditions of the sensibility of the stomach, neither emetics nor violent aperients are admissible. In such cases, the combination of magnesia or chalk with columba, bismuth, or morphia, is most useful. Mr. Parker has derived more benefit from prepared chalk, given with hydrocyanic acid or morphia, in these states, than from almost any other remedy. When combined with hyperemia or inflammation, the first indications are to remove the local determination of blood, and to correct the morbid state of the secretions by the mild remedies just mentioned: and when the inflammation has subsided, to administer the mineral acids or quinine freely, to correct the disposition to its recurrence. The daily exhibition of opiates has been recommended in some forms of the disease in which habitual vomiting was present.

Besides its ordinary fluids, the stomach secretes *air*, which sometimes accumulates to such a degree as to contract the cavity of the chest by pushing the diaphragm upwards, and thus changing the character of the breathing, and giving rise to irregularities in the action of the heart. This may occur in every possible condition of the mucous membrane, and in two opposite states of derangement of the vascular and nervous systems of the stomach; and hence, must be treated in relation to the exact pathological condition of the mucous membrane on which it appears to depend. It is in some instances cured by leeches, blisters, and warm aperients, and in others, yields only to quinine and the preparations of iron.

The next chapter is devoted to the consideration of the influence of the stomach on other organs, the *liver*, *lungs*, *heart*, and *brain*, and deserves an attentive study. Our limits will only allow a glance at its contents. The *liver* is the organ more immediately connected with the stomach by similarity of function, and has its secreting power augmented in proportion to the demands on the powers of the stomach during digestion; and as increased secretion rarely goes on without an increased determination of blood to the secreting organ, and undue secretion of bile is generally accompanied by a local determination of blood to the liver. The mode of transmission of irritation from the stomach and duodenum to the liver is evidently by the way of "continuous sympathy," that is, from the mucous surface of the stomach to that of the duodenum, and thence through the common and hepatic ducts, to the liver. The propagation of inflammatory irritation from the stomach to the liver may also sometimes be propagated through the medium of the veins, as discovered by M. Ribes, and corroborated by Andral and Cruveilhier. The intimate connection between the functions of respiration and of digestion, dependent on the identity of their nervous influence, would lead us to anticipate that hurried breathing, cough, and various disturbances of the function of respiration might be consequent upon affections of the stomach, and such we find to be the case. Respiration is generally quickened after a hearty meal, and cough at other times absent, is commonly then brought on, owing to the mechanical distension of the stomach by food, or by gases evolved during the process of digestion.

Irritating or indigestible food thus disturbs the functions of the lungs, and hence the great importance of properly regulated diet in diseases of those organs, and the derangement often produced by juleps, syrups, balsams, and oleaginous mixtures. In all pulmonary diseases, the medicines as well as the food should be easily digestible. Irritation of the *diaphragm* from gastric disorder frequently deranges the function of respiration. The first effect of this constant and repeated irritation of the chest, occasioned by violent fits of coughing, is to produce a certain degree of congestion of blood in the mucous membrane of the bronchiæ, and subsequently in the pulmonary vesicles, and thus to give rise to the first stage of pneumonia, bronchitis, and their consequences. In this manner, a simple indigestion, apparently so trivial, may lay the foundation of organic disease of the lungs. Another mode in which affections of the mucous membrane of the lungs are caused by those of the stomach, is under the influence of the law which disposes diseases to spread by similarity of tissue. In addition to these, the lungs are also affected mechanically through the stomach, by means of its distention by food, and by an accumulation of gases evolved during the process of digestion.

The *heart* is also influenced by the stomach, both mechanically and vitally. The distension of the stomach by food or gases, by contracting the cavity of the chest and preventing the free discharge of blood from the right side of the heart, naturally deranges the action of this organ, and hence its frequently labored, quickened, or irregular action after a meal, even when the stomach is free from complaint. A very small quantity of food will sometimes excite the action of the heart to a very distressing degree. Position has a marked effect on the action of the heart, after a full meal, as is seen in those whose occupations lead them to work with the stomach pressed against a desk or counter; the same effect is produced by tight lacing. This mechanical distension of the stomach should always be carefully guarded against in persons with organic disease of the heart, as it often suddenly leads to a fatal result.

When the stomach is under the influence of food, improper in quantity or quality, a degree of irritation is produced in its mucous membrane, giving rise to its congestion, and at the same time, the heart becomes unduly excited, and beats in a hurried and irregular manner. In many individuals, the pulse constantly intermits during the period of digestion, and in others, the increased activity of the heart amounts to a distressing degree of palpitation, and in either case, without any organic change in the heart. At the commencement of various forms of fever, the action of the heart frequently becomes excited or irregular, evidently in consequence of gastric irritation. The first effects of this irregular and hurried action of the heart is an impediment to the free passage of blood through its cavities, which in its turn, produces a mechanical congestion of this fluid in the liver, and consequently in the veins of the mucous surfaces of the stomach and duodenum. The accumulation of blood in these organs giving rise, commonly, to fulness of the hepatic region, and heat and tenderness of the epigastric. In such a state of the stomach, the exhibition of certain remedies becomes entirely inadmissible, and hence the importance of great caution in this respect.

The intimate connection between the *brain* and the stomach, both in health and disease, is familiar to every practitioner, and it is rare not to see some change produced in the functions of the former, by every impression made on the mucous membrane of the latter. Extreme mental depression, is one of the most frequent attendants upon chronic or subacute inflammation of the stomach, and upon that congested or excited state of the mucous membrane following the use of food improper in quantity or quality. This sometimes continues during the whole course of the gastric disease, and at other times, succeeds, or is aggravated by, a meal; on the contrary also, fits of great mental excitement occasionally succeed to the same diseases — and when protracted, may even end in confirmed insanity. This influence of the stomach on the brain is equally marked during sleep, giving rise to dreams of an extremely vivid and intense character. The stomach can only transmit healthy sensations to the brain as long as it is itself healthy.

Our author next proceeds to a consideration of the influence of morbid states of the stomach upon the *origin, progress, and termination of diseases of the liver, the heart, the lungs, and the brain, and also upon certain forms of dropsy.*

The latest writers on diseases of the *liver* attribute simple hypertrophy or enlargement of that organ, to an over-stimulating diet; the constant irritation kept up in the stomach by large quantities of food received into it, determining an increased quantity of blood to all the organs concerned in digestion. The state of the stomach which is the greatest source of irritation to the liver, is that in which there is a permanent excess of blood in its mucous coat, whether under the form of hyperemia, or of an actual state of chronic or acute inflammation — and this state is abundantly proved to be the real origin of a vast majority of diseases of the liver. The symptoms which mark the invasion of hepatic disease are almost the same as those indicative of disease of the mucous coat of the stomach. Pains in the region of the liver, shooting to various parts of the chest, to the arms, shoulders, and even to the fingers, are commonly attendant on the incipient stage of disease of the liver. These pains may be fixed in the right hypochondrium, or in the epigastrium; they may be more acute in the shoulder, in the neck, between the scapulæ, or on any part of the surface of the chest; they may be lancinating and acute, or merely a dull, heavy, uneasy sensation. In persons of bilious temperament, these pains are constantly recurring every time the secretions of the liver become deranged or unduly augmented, and at these times, are frequently accompanied by a dragging, or sensation of weight, in the region of the liver. In every form of disease of the liver, there are no symptoms so invariably present in their progress as those connected with functional derangement of the organs of digestion.

The forms of gastric disease attendant on the incipient stages of disease in the liver, vary from mere flatulence to periodical attacks of acute gastritis. These gastric derangements are constantly occurring in some persons without any errors or excess in diet — and may continue, even for years, without appearing to be accompanied by, or productive of, any other affection; at length, however, pain and dragging, with weight and uneasiness in the right hypochondrium are complained of, and on examination of the region of the liver, a distinct tumor, tender to the touch, is perceived; at other times, the symptoms of gastritis or gastro-enteritis are most distinct, and in that case, these generally attract the patient's attention so much that he loses sight of the slight uneasiness in the right side.

The affections of the stomach accompanying the primary forms of hepatic diseases may be reduced to three: mere hyperemia, chronic or subacute inflammation, and acute inflammation. In those addicted to the excessive and continued use of alcoholic liquors, symptoms of hepatic inflammation rapidly succeed an attack of acute inflammation of the mucous membrane of the stomach.

The symptoms which accompany the *more advanced* stages of diseases of the livèr are drawn as much from the affections of other organs sympathetically deranged, as from the liver itself; active or passive hyperemia, however, or pure gastritis in its varied forms, always complicates this stage of these diseases. In the *latter* stages of them, the most common affections of the digestive organs found, are attacks of acute or subacute gastritis, sometimes supervening upon a state of chronic gastritis which has existed from the commencement, and at other times, produced by slight dietetic errors.

The *circulation* sometimes does not exhibit any other marks of derangement in cases of confirmed hepatic disease than the mere increase of frequency in pulsation, which is observed more or less in all febrile or inflammatory diseases. In some cases, however, disturbances occur, which may vary from an increased and tumultuous impulse of the heart to great irregularities in its action. The pulse occasionally presents a great degree of sharpness, and the heart beats with an unusual impulse. The derangement of the circulation is so great, that when the symptoms are observed to co-exist with anasarca or ascites, valvular disease is sometimes suspected, and at other times, some organic change in the heart itself. These symptoms are, however, all found, at times, in various forms of disease of the stomach, when the liver is perfectly healthy.

The sympathetic affections of the *organs of respiration* dependent on diseases of the liver, may be either functional derangements, as hurried breathing, or spasmodic cough, or actual inflammation of the lung, the pleura, or the bronchiæ. The cough may be short and dry, and in continued paroxyms, without expectoration; or may be followed by expectoration of frothy mucus, purulent, or sanguineous matter.

Cases are next introduced, illustrating by autopsic examinations, the connection between diseases of the stomach and those of the liver, first under the form of hypertrophy, and then under those of hepatitis and of abscess, and lastly under that of cancer. The result of the experience of our author, as well as of that of Andral, Cruveilhier, and others, proves that gastritis almost invariably coincides with all these states of hepatic disease. He says, that of all of them attended with organic derangement, perhaps that lesion termed "cancer," whether in its hard or soft form, is most invariably preceded or accompanied by symptoms of a morbid condition of the mucous membrane of the stomach; these symptoms are sometimes, those of mere inflammatory indigestion, such as distension and pain after food, acid eructations, and occasional vomiting; at other times, long continued diarrhœa; in one instance, injury of the stomach was the exciting cause; in other cases, hematemesis may be the first form of gastric disease observed.

Hydatids are more frequent in the liver than in any other organ, and may be formed under the influence of gastro-intestinal inflammation, or this may succeed to them, and thus prove the proximate cause of death.

The symptoms preceding the formation of *biliary calculi* are found, in most instances, to be limited to those indicating a disordered or diseased condition of the stomach, either of a purely inflammatory kind, or marked by attacks of acute pain, recurring at longer or shorter intervals. In most cases of death from gastric disease, either primary or by complication, the lining membrane of the gall-bladder is found inflamed, softened, or otherwise diseased, and the bile generally resinous, adhesive, much thicker than in its natural state, and of a deep black color. The disease, in such cases, is doubtless propagated by contiguity of tissue, from the mucous membrane of the stomach to that of the duodenum, and thence, through the common duct, to the cystic and hepatic.

The subject of the next chapter is *the influence of morbid conditions of the stomach upon certain forms of dropsy*, especially of ascites, in which this influence is considered, — 1st. In reference to the condition of those organs upon which the ascites depends; and 2nd, as it regards the exhibition of diuretic remedies. When dependent on hepatic disease, the attacks of acute or subacute gastritis which are often observed, increase the mechanical obstruction to the circulation, and thus add to the accumulation in the peritoneum; as these attacks yield to the proper means, the ascites again returns to its original state. In this form of ascites, the mucous membrane of the stomach, and also of the bowels, should always be carefully ascertained before treatment is commenced, and every form of gastritis cured before any stimulating diuretics are used; otherwise, the irritation produced in the mucous membrane of the stomach will increase the hepatic congestion, and thus aggravate, instead of relieve, the dropsical affection. Sometimes the disease of the stomach is such as to require the greatest caution in the use of remedies. In those forms of dropsy depending upon disease of the heart, the state of the stomach should always be carefully observed, and duly respected in the administration of diuretics. Mr. Parker attributes the ill effects of digitalis, in complications of ascites and anasarca with diseases of the heart, not so much to the uncertainty of its character as a therapeutic agent, as to the state of the mucous membrane of the stomach at the time of its exhibition.

The re-action of the *heart* and stomach upon each other in states of disease is such as to constitute a circle of morbid phenomena, which are not merely confined to these organs, but become exciting causes of other diseases in remote parts, the starting point of which can be traced, in most instances, to the stomach alone.

All inflammatory irritations of the stomach do not influence the heart's action; they generally affect it the more as they are more intense, as they occur in patients of greater susceptibility, or as they occupy more immediately the cardiac portion of the stomach.

Where the action of the heart is habitually energetic, the mucous membrane of the stomach and duodenum is constantly thrown into a state of congestion by the retention of blood in the portal system, in consequence of the impediment thus placed in the way of its free return from the vena cava, and digestion is thus rendered laborious. This connection between an habitually energetic action of the heart and gastro-duodenal irritation was noticed by Broussais. With this vascular irritation, there is usually a great degree of nervous irritability, shown by an unusually irritable state of the heart. For this state, after bleeding, our author says that hydrocyanic acid is a most invaluable remedy, and one for which he knows no substitute.

The heart is not only influenced in the force and frequency of its pulsations by inflammatory irritation of the stomach, but the regularity or rhythm of its action is interrupted; its beats become irregular, tumultuous, and intermittent, and put on all the characters of organic disease; the breathing is hurried, and occasionally the lower limbs become œdematous from interruption of the free return of blood through the heart. Mr. P. has met with one case, and quotes a second recorded by Cruveilhier, in which even the physical as well as rational signs of diseased heart were present, and yet no change was found in the heart after death. The irregular and increased action of the heart consequent upon gastric disturbance is attributed by Andral and Broussais to predisposition to the disease on the part of the heart, characterized by a preternatural thickness of its walls, or an over-excitable state of the nerves distributed to it.

The pulse is sometimes affected by gastric irritation independently of the heart itself, there being, in some cases, a distinct double, and even triple pulsation to each contraction of the ventricle, and in others, a mere tremulous motion of the artery. In these cases, the action of the artery becomes natural as the symptoms of inflammatory irritation are removed. But in most cases of inflammatory irritation of the stomach, the pulse is affected through the medium of the heart, and may be modified in various ways. In many cases, it is languid and creeping, not exceeding forty beats in a minute, in certain forms of chronic gastritis — and these forms are, not unfrequently, some of the most insidious, uncontrollable, and fatal. At other times, the pulse is slightly accelerated, its frequency increasing towards evening, when there is some slight accession of fever; sometimes attended with cough and flushings of the cheek, resembling perfectly the character of hectic fever depending upon disease of the lung. In a third form of disease, the pulse is intermittent, and may be so constantly, or only during its exacerbations. When the circulating system is easily disturbed by gastric disease, it shows a predisposition on the part of the heart to become diseased, and the continuance of the gastric disease would ultimately induce disease of the heart itself. If we find during life, vomiting, flatulence, uneasiness, weight, and tenderness in the epigastrium, accompanying the signs of disease of the heart, we may be sure that gastritis is associated with it, and that its continuance will only hasten the termination of the cardiac disease, and give rise to many symptoms which would otherwise be absent. Hence, in diseases of the heart, whether acute or chronic, the state of the stomach should never be overlooked.

The irregularities of the heart's action which have been described, may be referred to the three different states of the stomach so frequently alluded to: that of mere congestion of the mucous coat; that of a confirmed inflammatory condition, and that of a morbid state of its sensibility.

The influence of an inflamed or irritable condition of the mucous membrane of the stomach and bowels upon the *lungs* and their appendages, is exhibited in mere functional derangement, or in the production of various forms of hyperemia and inflammation, which, in many instances, terminate in incurable organic disease.

Two of the most common symptoms which denote the commencement of affections of the *lung* arising from inflammation of the mucous membrane of the stomach are, a pain in the centre of the sternum, with a sense of constriction and oppression across the chest, and cough coming on or aggravated after eating. Tenderness of the epigastrium may or may not coexist with these; its presence is not essential to the existence of hyperemia, or of chronic gastritis. Cough after food, with pains in the chest, is found, in delicate females, masking all the symptoms of gastric disturbance, which are often obscure, continuing month after month, with progressive emaciation; without *auscultation* in such cases, it is difficult, and sometimes impossible, to determine whether the disease be pulmonary or not. Stimulant expectorants and tonics only aggravate the symptoms in such cases. Errors of this kind are doubtless frequent. To these symptoms of functional derangement of the lungs dependent on gastric disease, is to be added accelerated respiration;

there is a peculiar catching at the breath, a deep inspiration, occasioning pain, and bringing on cough. These symptoms appear to afford still stronger evidence of pulmonary disease. In many cases, however, the number of respirations is not quickened, even when cough, pain, and tightness exist in the chest; a deep inspiration can be taken without pain, or without increasing the cough. This accelerated respiration dependent on gastric disease is frequently seen in children, and not unfrequently leads to the idea of pulmonary affection. This irritation may be propagated to the lungs either by means of nervous connection, or in accordance with the law which disposes diseases to spread by similarity of tissue; or the affection of the chest may depend upon an inflamed condition of the peritoneum lining the inferior surface of the diaphragm.

Inflammatory diseases of the stomach which complicate those of the lungs may originate simultaneously with the affection of the chest, and from the same cause, or the disease of the stomach may be either primitive or secondary, either preceding or following the disease of the lungs.

The complications of disease of the mucous membrane of the lungs with that of the stomach frequently pass from the subacute to the chronic state together, so that we often see, particularly in children, diarrhœa with vomiting accompanying cough, quickened breathing, and the physical signs of bronchial disease. In such cases, it is particularly important to avoid all remedies which are calculated to excite the digestive mucous surfaces, especially combinations of antimony with squills, and different syrups and balsams. In such cases, the mist. cretæ with the opiate confection, and hydrocyanic acid, or a combination of hyd. c. creta with pulv. ipecac. comp., generally succeed better than any other remedies; at the same time, leeching the epigastrium, if the gastric symptoms are urgent, or using counter-irritants to the chest with local depletion, if the pectoral symptoms become dominant.

Sometimes the affection of the stomach ceases after the establishment of disease in the chest terminating in profuse expectoration. Inflammatory affections of the stomach, in this way, occasionally relieve similar forms of disease in the lungs; but this must not be attempted by artificial means, as, in a majority of instances, the cough and expectoration are increased by the inflammation of the stomach and bowels, and the difficulty of breathing, more particularly, becomes aggravated.

The pains felt in the sides, under the mammæ, or in the cardiac region, in chronic gastritis, sometimes become suddenly acute, and have the character of pleurisy, without however its physical signs. These pains are sometimes attended by irregular action of the heart and intermittent pulse. Local depletion from the epigastrium, with hydrocyanic acid, or remedies suited to the gastric disease, seldom fail to remove these sympathetic pains.

Pneumonia is frequently complicated with inflammation of the mucous coat of the stomach, and may be either subsequent to, and dependent on the gastritis, or the two may be ushered in together. In this complication, we have nausea, vomiting, a loaded tongue, red at the point and edges, yellow tinge of the countenance and of the conjunctival, with pain and tenderness in the epigastrium, at the same time that the physical signs of pneumonia are present.

Tubercular phthisis may also be developed after continued gastric irritation. Our author has seen four cases of this kind, and refers to others of the same nature described by Louis, Andral, and De Larroque. The occurrence of repeated attacks of inflammatory indigestion or of diarrhœa, in persons exhibiting any predisposition to affections of the chest, or where there is any hereditary tendency to phthisis, should excite our most watchful attention. If we analyze the symptoms of every case of indigestion not amounting to a chronic gastritis, even in its faintest shade, we shall find a great majority complicated, in a greater or less degree with cough.

The cough resulting from gastric irritation is sometimes succeeded by hœmoptisis, after which tubercles are quickly developed. Sometimes a true bronchitis, with bloody expectoration, is the consequence; at other times, a congested state of the lung. The symptoms of gastric irritation sometimes continue in the chronic form for months and even years, before they become complicated with signs which would lead us to suspect any affection of the chest.

The sympathetic affections of the *brain* dependent upon diseases of the mucous surfaces of the stomach are manifested during life by infinite varieties of condition of the reasoning and intellectual powers, from mere irritability of temper, to confirmed lunacy or mania. Sometimes stupor is present; at others, pain in the head, with excitement. The functions of the senses are impaired or exalted, while, in more aggravated forms, the disease of the head progresses into profound coma, or terminates in convulsions, or various partial paralyses, and changes in the sensibilities of different parts of the skin. These varied forms of irritation in the brain depend sometimes on a mere hyperemic state of the stomach, and sometimes confirmed inflammatory conditions are present; there are also doubtless certain conditions of excitement in the nervous system giving rise to many symptoms during life which elude our search after death.

The affections of the head that accompany the progress of digestion are most commonly those of vascular turgescence (cerebral congestion,) evidenced by a great variety of symptoms; sometimes by great drowsiness after a meal; at other times, by an intense frontal headache; and in other cases, by a total inability to perform any intellectual act, and complete stupidity. Diseases of the stomach possess, in certain cases, a manifest influence on the developement of cerebral congestions. At all ages, and particularly in infancy, acute gastro-intestinal affections may be accompanied by symptoms of this nature. In many instances, the state of the brain will require special attention, the symptoms to which it gives rise being more alarming than those of the primitive disease to which it owes its origin. In a certain class of cases, the brain and stomach react upon each other, and the patient suffers from a set of symptoms which arise from irritation in both organs.

A permanent state of active congestion of the mucous membrane of the stomach tends to keep up a permanent state of cerebral congestion, which may be affected through the medium of increased force and frequency in the actions of the heart, or by direct transmission of irritation from one organ to the other. The congested state of the mucous membrane of the stomach during digestion produces a corresponding congestion in the brain, which subsides when digestion is completed. This daily repetition of evanescent congestion in a healthy brain, perhaps does no more mischief than predisposing to permanent states of affection of the head, on the occurrence of slight exciting causes; but where the brain is already diseased, the return of every meal threatens a fatal form of congestion. The cerebral congestion, determined by long standing disease of the brain, never affects the patient as long as the stomach is healthy, more than by occasioning severe headaches.

In some cases, hyperemia of the stomach consequent upon the digestion of large quantities of stimulating food, produces a similar condition of the brain, under the influence of which convulsions are excited.

Besides these forms of cerebral disease consequent on gastric irritation, in which the morbid actions are chiefly confined to the vascular system, there is another series of cases in which the irritation is seated principally in the nervous system of the parts affected, the forms of vascular excitement which accompany them being secondary. These, however, demand great attention, since, in the brain, they more commonly terminate in fatal effusion than the other forms.

The brain and spinal cord in children appear to sympathise more readily with gastro-intestinal irritation, than in adults; hence the rapidity with which the slightest forms of gastritis, or even gastric irritation, produce in them convulsive motions. The same motions are also occasionally observed in adults from the same cause, though much less frequently.

The morbid states of the stomach which most materially influence the condition of the brain, are 1. inflammatory states; 2. diseases of its sensibility; 3. disordered states of its secretions. In practice, however, none of the states will be found single and uncombined. The affections of the brain which succeed to these forms of irritation in the stomach, may be thus enumerated—evanescent stupor or drowsiness, coma, fatal forms of cerebral congestion, effusion, convulsions, variations in the conditions of the intellectual powers as exhibited in excitement, delirium, melancholy, depression, loss of one or more of the mental faculties, as memory, &c., and alterations in the functions of the senses.

The organic changes produced in the brain by continued or constantly repeated gastric irritation, are more commonly found to consist in opacities of the arachnoid, effusions of turbid serum, and states of increased vascularity of the substance of the brain.

The remaining chapter is devoted to the *treatment* of diseases of the stomach, which our author divides into the two grand sections of dietetic and medicinal. For the former he refers to the writings of Paris, Johnson, Philip, Abernethy, and others, who have treated specially on this subject; the latter he modifies to suit particular groups of symptoms in different individuals, and for this purpose, divides the symptoms into several classes, according to their predominance.

When the predominant symptoms are *pain* and *constipation*, the common forms of aperient medicines cannot be borne on account of the great additional disturbance they create. Enemta are also totally inefficacious in relieving the constipation. Mr. P. has seen a number of cases which had been aggravated by drastic and cold saline aperients, yield almost magically to the following combinations: ℞ pulv. rhæi gr. iv., morphiæ muriatis, gr. $\frac{1}{12}$ m. ft. pil. ter die sumend.; with 3 table sp. £ of the following mixture three times daily: ℞ Infus. cascarillæ ℥vij, magnes. sulphatis ℥ss, magnes. carb. pond. ʒiss, tinct. aloes ℥ss, acidi hydrocyanici m. xv., tinct. humuli ʒij. mix. Mr. P. has not found material benefit from leeches in this form of disease, nor generally from counter-irritants. He considers blisters as the best of the latter means that can be used, sprinkling their denuded surface with a grain or more of the acetate or muriate of morphia. These forms of disease he considers dependent upon a slight inflammatory affection of the stomach in patients of great nervous susceptibility, and at other times, as diseases of sensibility alone; when accompanied by tenderness in the epigastrium, a red, loaded tongue, frequency of pulse, and at evening accessions of fever, he thinks that there is a slight degree of inflammatory action, and in these cases, three, four, or six leeches applied to the epigastrium, from time to time, are of great service; a larger number frequently does harm. After the constipation has been removed by the means recommended, and leeching or blistering the epigastrium at the same time if tenderness be present, the following is frequently of great service: ℞ magnes. carb. pond. ʒj., bismuth. subnitratis gr. v., morphia gr. ⅛ m. f. pulvis ter die sumendus. When the bowels have been brought to act well without medicine, and all the symptoms of inflammatory disease have subsided, a combination of the muriate or acetate of morphia with the carbonate or sulphate of iron, or the syrup of morphia with the muriate or the ammoniated tincture of iron, will generally be found serviceable in preventing the recurrence of pain. The patient must be confined at first to farinaceous and milk diet.

When *vomiting* and *diarrhœa* are the predominant symptoms, they frequently exist together, or vomiting may occur occasionally only while the bowels are habitually relaxed. In a great majority of cases, these symptoms are dependent upon a chronic irritation of the gastro-intestinal mucous membrane, of the inflammatory kind. The most simple aperient, in many of these cases, will produce profuse evacuation; some of them exist for months together.

The great point in the treatment of all cases of this kind, is to allay the irritability of the mucous surfaces by mild opiate, antacid, or absorbent remedies; avoiding all active measures. Restrict the patient to a mild, unstimulating, nutritious diet, consisting of milk and farinaceous aliments, and give such medicines as hydr. c. creta, with p. ipecac. comp. 2 grs. of the former, with one grain of the latter, for a dose; the carbonate of soda, with morphia, if much acidity be present, or a grain or two of rhubarb, with the same anodyne; the hydro-cyanic acid may also be given with these remedies in the mistura cretæ. Should the epigastrium become tender, it must be leeched, and if the tenderness continues after local depletion repeated two or three times, a blister may be applied, and the surface powdered with morphia, or dressed with an ointment containing three or four grains of this salt to the ounce.

In the more acute forms, characterized by great epigastric tenderness and irritability of the vascular system. The first step must be the local abstraction of blood from the epigastrium, which should be continued daily, in small quantities, proportionate to the strength of the patient whilst any heat or tenderness remains, or while the arterial system is excited by taking food. In the intervals, the stomach must be covered by a fomentation of hops, poppies, or an aqueous solution of opium, and the patient limited to strict diet, as tepid gruel, or thin farinaceous food, and the following given internally: — ℞ acide nitro-muriatici m. xl, morphiæ muriatis, gr. ½ to gr. j, syr. simpl. ℥j, aquæ distill. ℥vij. m. — three table sp. f. to be taken every 4 hours. Aperient medicines are decidedly hurtful in this form of gastric disease; they augment the irritation of the stomach, increase the general vascular excitement, and the disposition to sympathetic affections. Roche recommends in these cases the application of leeches at those periods only when the febrile or arterial excitement comes on, which plan Mr. Parker thinks might be adopted with great benefit; this sometimes only occurs after the periods of taking food, the patient being comparatively well in the intervals.

To that class of cases in which *fulness, distension, and acidity, with flatulence and eructations after eating,* are the predominant symptoms, the term indigestion is most commonly applied. The pathological character of this form, is morbid fulness of blood not amounting to inflammation; this is the first step to chronic gastritis. In this form, if there is no marked epigastric tenderness, and the bowels be full and confined, as they usually are, all kinds of stimulants must first be removed from the diet, and the patient restricted to milk and easily digestible food. Aperients are of great service, but must be given with judgement, as the morbid condition of the stomach and bowels renders them particularly sensible to impression, and hence purgative medicines, even when properly selected, sometimes act too freely. Mr. P. generally employs the following aperient: — ℞ pil. hydrag. grs. ij, pulv. rhæi gr. iij, ipecac. comp. gr. j, mucilag, q. s. — f. pil. no ij — to be taken two or three times daily, with two or three table sp. f. of the mixture prescribed under the first head (infus. cascar., magnes. sulph., &c.) If there be a distressing degree of flatulence, a combination of the pil. hydr. with the pil. galbani comp. is of great service — at other times, the pil. hydr. may be given with the extract of hyoscyamus. These remedies are to be given with different proportions of the mixture, according to circumstances. Mr. P. has found great benefit from exhibiting the pills and mixture one hour before dinner, and repeated before the evening meal, if the bowels require it. If there is pain, and much tenderness in the epigastrium, and the pulse is full and hard, and the tongue red and dry, small relays of leeches will be of great use. Mr. P. has frequently cured these indigestions simply by applying 4 or 6 leeches every 2 or 3 days during the period of digestion, enjoining abstinence from all stimulating aliments, and confining the patient to thickened milk, sago, or farinaceous food, substituting cocoa for coffee or tea. Mucilaginous and acidulated drinks are of service during active hyperemia or inflammatory states of of the mucous coats of the stomach, and also anodyne fomentations, both of which measures are strongly recommended by the French, and, our author thinks, too much neglected in England. He does not think that revulsives, such as blisters, tartar emetic ointment, or plasters, or frictions with croton oil, are generally beneficial in these forms of gastric disease, nor indeed in any other of the forms, unless they be perfectly apyretic.

A few general remarks on the principal remedies employed in diseases of the stomach conclude our author's labours.

General bleeding, he says, is inadmissible in these diseases, even when of an inflammatory nature, except perhaps in very severe forms of acute gastritis, where a single bleeding might be employed at first, before local depletion. The testimony of most authors is against general bleeding. *Local* bleeding, on the contrary, is one of the most efficacious remedies that can be employed in all affections of this kind. Judicious local depletion from the epigastrium may be used when other remedies seem to produce but little, or only temporary benefit, and may always be resorted to when fulness of blood in the mucous coat is suspected, from whatever cause. Even in cases of extreme emaciation, 2, 3, or 4 leeches will sometimes produce a relief which no medicine will effect. In cases of acute inflammation, leeches may be freely employed, 15 or 20 each time. If the gastritis arise during the progress of an affection of the heart or liver, depletion must be more cautiously employed. In confirmed chronic gastritis, more benefit will be derived from the daily application of small relays of leeches to the number of 6 or 8, than from a greater number at a time. The quantity of blood taken in these cases is of great importance; large depletions are very apt to be followed by unpleasant nervous symptoms. The period of bleeding is also important; it should be employed when the prominent features of the disease are present, which, in many forms of gastritis, is only after meals; it is then very much more useful both as a palliative and a curative remedy.

The best *aperients* that can be used in these diseases are combinations of the pil. hydrarg. with rhubarb or aloes, combined with the pil. galbani comp., the extract of hops, lettuce, or hyoscyamus, or the salts of morphia. Calomel, combined with the pil. aloes comp. and some sedative, is also useful in certain cases. The proportion of mercurial for each dose should rarely exceed one grain. These, with the solutions of neutral salts in bitter infusions, with the addition of hydrocyanic acid, operate freely and without pain, and generally afford very marked relief.

Sedatives constitute an important class of remedies in these diseases. Of these, the best that can be employed is the muriate of morphia. This is of great use in all inflammatory affections of the stomach, combined with aperients or alkalies, or given merely to allay pain or irritability. Other sedatives, which may be given according to circumstances, are acetate of morphia, hydrocyanic acid, liquor opii sedativa, or the extract of hops, lettuce, or henbane — these are all generally more useful when combined with alkalies or aperients than when given simply and uncombined. The external application of sedatives to the epigastrium is also serviceable in many painful affections of the stomach, as a piece of flannel soaked in a strong solution of opium, and worn over the epigastrium; or, what is more efficacious, a solution of from two to four drachms of the extract of belladonna, in six or eight ounces of water, as a tepid application to the part — a poultice of the leaves may also be used, or one of hyoscyamus, hop, or poppy.

Among *antacids and absorbents* in cases attended with great acidity, Mr. Parker has found the mistura cretæ, (of the London Pharmacopœia*) given with large doses of hydrocyanic acid, particularly serviceable — at other times, the ponderous carbonate of magnesia or soda, combined with morphia and the sub-nitrate of bismuth, may be employed. When intense acidity accompanies or succeeds to great bodily debility, particularly when this is the result of large losses of blood, the various preparations of iron are very serviceable, among the most efficacious of which, perhaps, are combinations of the carbonate of iron with myrrh and rhubarb.

The morbid states of the stomach, in which *tonics* are useful, may be referred to 4 classes: —

1. Primitive morbid conditions, resembling inflammatory affections, which are aggravated by an antiphlogistic treatment, or by aperients.

2. States of disease, succeeding to inflammation, which have been benefited by an antiphlogistic treatment in the commencement, but where this no longer affords relief, or adds to the severity of the symptoms.

3. Various morbid states of the sensibility of the stomach, which are occasionally accompanied by intermittent neuralgic affections in other parts of the body.

4. States of general debility, and many local symptoms, as pain, nausea, and vomiting, which accompany confirmed organic diseases of the stomach.

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* Which differs but little from that of the U. S. Pharmacop. except in the absence of aromatics.

The views and principles of treatment advanced by our author of which we present an abstract, and often in his own words, are fully illustrated and abundantly confirmed by numerous cases which stamp a high practical value on his work, and we feel justified in recommending it to the notice of our brethren.

H. D. B.

Diseases of the Uterus.— A series of Clinical Lectures delivered at the Hospital La Pitié by M. Lisfranc, and Edited by H. Pauly M.D. Translated from the French, by G. Henry Lodge, M.D. &c. Boston, Wm. D. Ticknor, 1839, 8vo. pp. 401.

One of the most striking facts that presents itself to the American physician acquainted only with the standard authorities of his own country on entering the hospitals at Paris, is the totally different manner in which the whole class of uterine affections is studied and treated there. He has been accustomed to hear of nothing but symptoms — of this patient suffering from leuchorrhæa, or that from ameuorrhæa or dysmenorrhæa &c. The idea of touching the uterus, or of seeing it through the speculum, and thereby gaining some idea of the cause, of the pathology of these affections, never enters his mind, or if it does, it is put off to some distant period when every thing else has been tried in vain. We believe it to be a fundamental truth, that the affections of the uterus can never be properly understood or treated, until they are studied, not as *symptoms*, but as *diseases* often widely different in their nature, yet hardly to be distinguished by their rational signs — but only by their physical signs as indicated by the touch and the sight. We know what are the objections to this modo of study. They are, first, that females in this country are often so opposed to these modes of examination, that the physician might be constantly losing his patients by even proposing such a step; and in the second place, the practice of these modes, especially of the touch, requires to be very often repeated, before it can be really valuable to the physician. Both these objections are valid and of great weight, but they do not alter the position we have taken, *that the affections of the uterus can never be properly understood or treated, until they are studied not as symptoms, but as diseases.*

Those who view the subject in this light will be pleased to find that the experience of so distinguished a practitioner as Lisfranc is placed within their reach. The reputation of this surgeon in the treatment of uterine diseases is greater than that of any other practitioner in Paris; so that independent of his large hospital service, his external consultations and private practice have afforded him every opportunity for an extended acquaintance with their character and mode of treatment, and that too after every facility for a physical examination during life and for a *post-mortem* study of fatal cases.

The work is divided into four parts; the first treating of the Surgical Anatomy of the Female Organs of generation, and of the Modes of Examination employed to ascertain their condition: the second treats of the Diseases of the Uterus generally: the third of certain Symptoms of Menstruation, as Uterine Hermorrhage, Leuchorrhæa: the fourth of the Organic changes of the Uterus.

It is plain to see that the general arrangement of the work might be much improved, especially by placing first or second, what is actually left to the last — the organic changes of the uterus. These changes are in fact the corner stone of the whole work, for upon them not only the symptoms but the treatment are made to depend. To the student, however, who reads the book with the right view of the subject, and who understands the importance of morbid anatomy as the foundation of all medical knowledge, this objection will not have much weight.

There is, however, one real objection to the book; there are strong proofs of professional dishonesty in it. It is a hard thing to accuse an author of intentional misrepresentation, yet no one we think can read the chapter on amputation of the neck of the uterus in cancer, without inclining to the belief that such has been the case. We have in another place (*Vol.* 1. *Art. Cancer of the Uterus*) entered fully into the discussion of this matter, so that there is now no need of reverting to it: with this serious imperfection the work is one of the most valuable contributions to the pathology and treatment of uterine diseases.

J. A. S.

Medical Notes and Reflections. By HENRY HOLLAND, M. D., F. R. S.; Fellow of the Royal College of Physicians; and Physician Extraordinary to the Queen. London, 1839. (Republished in Bell's Select Library.)

THE above work comes to us as the production of an author of matured experience and standing, who has long been engaged as a practitioner among the higher classes of society of the English metropolis. A book written under such circumstances would seem, at first sight, to possess peculiar interest. It will be recollected that most of the published medical experience of the present day is derived from quite a different source, almost exclusively from the sufferings of the lower classes, from those who become the inmates of large hospitals. Diseases, however, like the tastes and manners of men, do not present the same aspects in all classes — civilization and refinement, occupation and mode of life, produce equally marked differences in both cases. It is not to be expected, however, that the private practitioner should present us with those definite results which are founded on extended statistical inquiries, and which the wards of a large hospital, with all the advantage which bedside notes and careful observation, both during life and after death, can alone afford. We must ever, probably, rely on them as the chief source of our positive knowledge of pathology: yet nothing will be lost by comparing these results with those derived from other sources, especially from the higher walks of life.

Dr. Holland's book addresses itself to this want of the young practitioner of medicine, and in noticing it we shall state, without reserve, how far, in our opinion, this want has been satisfied. As might have been expected, coming from such a source, it gives evidence not only of much learning in ancient medical science and literature, but is also quite alive with a just appreciation of modern advancement. Yet with all this, there is a *vagueness* about these essays which render them far less instructive than we had hoped to find them. In some instances, this is remarkably the case. The chapters on 'Hereditary Disease,' on the 'Influence of Weather in Relation to Disease,' may be taken as illustrations. In other chapters, embracing subjects of more limited inquiry, we are able to gain something more definite. The chapters on 'Medical Evidence,' on 'Abuse of Purgative Medicines,' on 'Points where a patient may judge for himself,' and especially on the use of 'Opiates,' and 'Antimonials,' are those which gave us most satisfaction. The following is a summary of the author's opinions on these two last named subjects.

Speaking of opium he remarks, "there exists a distrust both as to the *frequency* and *extent* of its use, not warranted by facts, and injurious in various ways to our success in the treatment of disease." And again, "pain and sleeplessness, though strictly but symptoms of other ailment, may often in practice be viewed *as disorders themselves*, the removal of which is essential to our general treatment. Here opium is the most powerful and certain of the aids we possess; and its use is not to be measured timidly by tables of doses, but by fulfilment of the purpose for which it is given. A repetition of small doses will often fail, which if concentrated into a single dose, would safely effect all we require."

The author also speaks of the effects of opium in *checking disease* at its onset — of its virtue as a *sudorific*, where it appears to him to act by allaying inordinate vascular action throughout the body; and in inflammatory affections generally, after proper depletion has been resorted to.

The employment of opium in *affections of the brain* is always a point attended with great difficulty. We believe the general practice is against its use in such cases. Yet our author remarks, that there are cases where its benefits are great; although in others, injury alone can result. The great object, then, is to distinguish these cases. The following remarks made by Dr. H. may be worth attending to. "Perhaps one of the best practical tests may be found *in the state of the pupil:* known to be differently affected by opium, by belladonna, and certain other narcotics. Where *contraction* of the pupil is one of the symptoms of the disease, it may with some reason be supposed that opium is contra-indicated as a remedy; and a like inference might lead to the opposite class of narcotics in its stead; *transposing these methods* where the disease produces an habitually dilated state of the pupil. As far as my experience goes, it partially confirms the accuracy of the test, but is by no means sufficient to allow me to speak of it with certainty." The good effects of opium in certain cases of typhoid fever attended with delirium, or intolerable restlessness, is also commented upon.

The action of *antimonials* Dr. Holland regards as principally of a *sedative* character, that is, in those cases where it is given in repeated doses. He is disposed to regard the tartar emetic as quite equal to all the purposes for which the different forms of antimony are used, and thinks that it may with advantage supersede their employment. He also thinks that in most cases, its effects are most evident when given in its simplest form and without combination; although in many cases it may be combined most advantageously with opium, as in inflammatory affections after sufficient depletion. This combination, too, he regards as singularly useful in affections of the brain, especially in delirium tremens, and in fevers attended with much cerebral disturbance, and also in various forms of spasmodic disease.

We have presented enough, we hope, of Dr. Holland's views, to convey a proper idea of the merits of the most practical portions of his book — a work characterized more by learning than by originality — by beauty of style, than by depth of reasoning. If we have found but few results that we can seize upon and improve, there are no mistatements that might lead us into error. Such works certainly do not belong to the first class of medical writings destined to live in all times, yet they are far from being unworthy an attentive perusal.

J. A. S.

Elements of Pathological Anatomy, Illustrated by numerous Engravings. By Samuel D. Gross, M. D. Late Professor of General Anatomy, Physiology, and Pathological Anatomy, in the Medical Department of the Cincinnati College. In 2 vols. vol. I. Boston: Marsh, Capen, Lyon & Webb, and James B. Dow. 1839. 8vo. pp. 518.

We had been looking forward for some time to the publication of Dr. Gross' work on Pathological Anatomy, feeling assured that if ably executed, it would confer a great benefit on the profession of this country. We cannot, on the present occasion, enter into that thorough analysis and critical examination of it, which our own tastes and prepossessions for the subject would render an agreeable task, but shall defer this until the appearance of the second volume.

From the examination, however, that we have already made, we are induced to form the opinion that Dr. Gross is a laborious and careful investigator, an honest, fair-minded man, with sufficient practical acquaintance with the subject to distinguish the true from the visionary. That such a mind should produce a work of the highest value on a subject so much neglected in this country, is what might have been expected. And let it be justly appreciated as an effort far better adapted to our present necessities, than the sublimer, but less intelligible, efforts of genius could possibly have been. We want a clear and simple statement of the actual knowledge that has yet been acquired on this subject, by a careful comparison of the best authorities, enlightened by sufficient personal experience to appreciate what is true, and to reject what is false or imperfectly established. This we believe Dr. Gross has accomplished.

This volume embraces two distinct parts. The first, the 'General Principles of Pathological Anatomy:' the second, 'Special Pathological Anatomy.' In the first, the author presents us with a general view of inflammation and its consequences, confining himself chiefly to the sensible effects of this morbid process, without entering into any unprofitable discussions as to its proximate cause or essential nature. He then passes to the consideration of other morbid changes, which are often at least, independent of inflammation, as induration, hypertrophy, &c., and of hydatids, of which a full and interesting account is given, and finally terminates this part with the general history of the 'heterologous formations,' as tubercle, schirrus, encephaloïd, &c. This chapter, (on heterologous formations) is one of the most interesting portions of the volume, and is, moreover, presented to us with a conciseness every way desirable. We certainly, however, must differ from the author in relation to some important particulars, especially as to the inflammatory origin of tubercle and schirrus. It appears to us clear as light, that they are not dependent on this cause, but we are, at this time, prevented from even a statement of the arguments and facts on which the opposite belief is founded.

The second division of the work, relating to 'Special Pathological Anatomy,' treats in distinct chapters, of the lesions of the different tissues and organs. What strikes us as particularly useful, is the concise description of the healthy condition of parts as introductory to the history of the morbid changes they may undergo. Finally, the work of Dr. Gross is enriched with 4 plates, coloured, and with numerous wood cuts, which are very well executed.

J. A. S.

Plates of the Arteries, with References, for the Use of Students. By PAUL B. GODDARD, M. D., Demonstrator of Anatomy in the University of Pennsylvania, &c. Philadelphia. 4to. pp. 49. 1839.

DR. GODDARD, about two years ago, published a series of plates on the cerebro-spinal nerves; the present work, like the former, is mostly a compilation, and appears to be a continuation of his plan of anatomical illustrations. These lithographic plates of the arteries contain every trunk of sufficient importance to merit description, and must be found of great service to the student who has not the means of referring to the more expensive plates of Cloquet, Tiedeman, Bourgery, and other European anatomists. They are intended simply for the student of descriptive anatomy, containing delineations only of the arteries, and of such of the bones, muscles, and ligaments, as are necessary for pointing out the situation of these vessels. To the student of surgical anatomy, who wishes to investigate the relation of the arteries to the more important nerves, veins, or lymphatics, these plates will furnish no assistance.

Dr. Goddard, by following this plan, has simplified his delineations; but wo question how far he has thereby benefited the student. To know that such or such an artery exists, is of very little practical use, unless we are also made acquainted with its exact relation to other important organs. The delineation of the more important nerves and veins, in their relation to the arteries, especially at such points as are usually selected for operations on these vessels, would not have greatly complicated these plates. The addition would have rendered them much more useful to the student, and worthy of the attention of the practical surgeon.

In his references, Dr. G. has for the most part omitted to name the muscles, bones, and ligaments actually depicted on the plates, and a knowledge of which is necessary for understanding the situation of the vessels. This is an omission for which the apology of increasing the cost of the work, is scarcely applicable, and which by all means should be supplied in the next edition. With these strictures we recommend these plates of the arteries to the students of anatomy, as agreeing accurately with the standard anatomical descriptions of the day. They are published at a trifling expense, they are of easy reference, and are calculated to give a more exact notion of the situation and distribution of the arteries, than can be conveyed by any mere verbal description.

J. W.

Introductory Lecture before the Albany Medical College, Oct. 1st, 1839. By G. S. Bedford, M.D., of New-York, and Professor of Obstetric Medicine. Albany. pp. 23.

The interest of this lecture is chiefly local; it contains however some correct remarks on a subject of general interest to the profession — the election of medical professors by *concours*. Nothing, we think, can be clearer to those who have seen the operation of this system abroad, than its admirable adaptation to our wants and to our institutions.

J. A. S.

Principles of the Theory and Practice of Medicine. By Marshall Hall, M.D., F. R. S., Lecturer on the Theory and Practice of Medicine, &c. First American Edition Revised and much Enlarged. By J. Bigelow, M. D., Professor of Materia Medica, and Lecturer on Clinical Medicine, and O. W. Holmes, M.D., Professor of Anatomy, &c. Boston: C. C. Little and J. Brown. 8vo. pp. 724. 1839.

The basis of the above work is the "Principles of Diagnosis," a work well known to the profession in this country, and of which we can say nothing more favourable than that we have already introduced two editions of it to our professional brethren. "The Principles of Medicine," must, however, be justly regarded as an improvement on the original work, for besides containing a considerable amount of new matter, it is also enriched by copious additions by the American editors.

J. A. S.

A Synoptical Table of Percussion and Auscultation, arranged from the Works of Laennec, Hope, Louis, Piorry, &c., &c. By C. L. Mitchell, M.D. New-York.

This Table of Dr. Mitchell which has been published in a form suitable for the pocket, is a very accurate and well arranged Manual for the student of auscultation. It will be found particularly useful to those of the profession, who having read the standard works on the subject, yet occasionally require to have their memory refreshed in relation to particular points in the physical diagnosis of disease. It may be found at Adlard's, 168 Broadway.

J. A. S.

SCIENTIFIC INTELLIGENCE.

Proceedings of the Kappa Lambda Society. Regular Meeting, May 29, 1839.

Ship Fever. — *Dr. Macdonald* mentioned that several cases of ship fever in immigrants from Europe had been received into the New-York Hospital; out of eight or ten cases, there had been three or four deaths; two were *in articulo mortis* when received. Only one autopsy had been made. In that case, there was found ulceration of the mucous membrane of the stomach and of the glands of Peyer, with some inflammation of the bronchi, and also of the tissue of the lungs. All the cases were attended with congestion of the brain. The patients all came in ships crowded with passengers.

Poisoning by Arsenic. — *Dr. Macdonald* also mentioned a case of poisoning by arsenic, followed by recovery; three table spoonsful were taken, mixed with flour. The patient was a French cook, who took it for the purpose of destroying herself. She vomited freely half an hour after taking it, and had probably vomited most of the arsenic before she was seen. She had spasms, cramps in the legs, pain in the abdomen, bloody stools, with giddiness, &c. She was treated with the tritoxide of iron, and afterwards by bleeding and mucilaginous drinks, and is now nearly well.

Dr. Jos. M. Smith remarked, that it is settled that this preparation of iron is a certain antidote for arsenious acid, but not for Fowlers's solution, the potash in that having a stronger affinity for the arsenious acid than the iron.

Dr. Hoffman alluded to a case under his observation, in which a person took a considerable quantity of arsenic after eating a full meal, without much inconvenience, and thinks that a full stomach assists in counteracting its effects.

Dr. J. Wood mentioned the continuation and progress of a case of *ovarian dropsy*, before reported. He has just tapped the patient for the fourteenth time, the quantity of fluid drawn off has increased from five gallons to nearly ten. Dr. W. has taken about 120 gallons since July, 1837. The fluid drawn has heretofore generally been of about the consistence of sweet oil; the last time, it was more dense, almost like the white of an egg. The health of the patient continues pretty good; she walks with a firm step.

Regular Meeting, June 26*th*, 1839. *Enlargement of Peyer's Glands, &c., Scarlatina?*

Dr. Washington, in connection with a case which he related, exhibited a *post-mortem* specimen, in which the glands of Peyer and of Brunner were very much hypertrophied, although the patient, a little girl five years old, had been sick only twenty-seven hours before death. The oval patches of the glands of Peyer were very apparent near the stomach, and became more and more prominent towards the ileo-cœcal valve, at and near which they were very large and prominent. These glands were throughout the whole course of the small intestines as numerous and as much developed as in strongly marked cases of typhoid fever, but not ulcerated. The solitary glands of Brunner were very numerous and much enlarged along the last two feet of the ileum, and gave to the intestine the appearance of that kind of lace, the surface of which is thickly studded with small raised knots. The mesenteric glands were generally and moderately hypertrophied, particularly where they corresponded to the hypertrophied oval patches of Peyer. They were slightly rosy and firm, and neither they nor the glands of Peyer manifested any tendency towards the ulcerative or suppurative process which occurs in cases of typhoid fever. The patient was only sick 27 hours, was not seen by Dr. W. till 12 hours before death, two hours after which time she went into convulsions, become comatose, and continued so till death. She was seized with vomiting after eating, about two o'clock in the day, became feverish, and was more or less delirious through the night. Dr. Washington first saw her early in the morning, and found her slightly delirious — less so than she had been in the night; her pulse excessively rapid, her skin very hot and dry, with irregular patches of red, more or less distinct, scattered over it; her tongue whitely furred, and dotted with small points, the tonsils and fauces swollen and highly inflamed. He apprehended that it was a case of scarlet fever. The excitement was so great that he immediately bled her from the arm. The bleeding removed the delirium, produced moisture upon the skin, and decidedly moderated the fever. An enema, and magnesia with an acidulated drink, were ordered. Two hours afterwards, the fever having increased again, convulsions and coma supervened, and the latter continued till death.

It is not positively certain that this was a case of scarlet fever, as gastric derangement, in children especially, will produce almost identical symptoms, should the patient have taken cold previously so as to account for the inflammation of the throat; but, as the attack occurred in summer, and the child had not apparently taken cold, as well as from the great irritability of the nervous system, and the extreme rapidity of the pulse, and the general aspect which the case presented, it was considered as a case of incipient scarlet fever. It is very worthy of remark, that what has been considered as one of the anatomical changes accompanying scarlet fever, — the enlargement of the glands of Peyer, — was here found to a remarkable degree, although the child had been sick only 27 hours before death. This anatomical change had evidently been going on silently for some time before the occurrence of acute symptoms, or rather of the acute disease of which she died. The child had enjoyed her usual full health and an uncommon degree of mental activity, up to the time of the attack, with the exception that she was observed, during the preceding week, to be more disposed to fall asleep than usual. The brain was of very large size for a child of her age, and was found throughout its substance, but particularly its membranes, gorged with blood to the greatest possible degree, so as to leave no doubt that active, and even apoplectic congestion of the brain had been the immediate cause of death.

Dr. Buel related an analogous case in a child, which was apparently well 24 hours before death. It was attacked with convulsions, which he attributed to improper food, and which were temporarily relieved by a cathartic. There was some appearance of the eruption of scarlatina, to which disease the child had been exposed, and to which Dr. B. was rather inclined to attribute the symptoms. On examination after death, a similar alteration both of the glands of Peyer and of Brunner was found, as in the case just related.

Spontaneous Pulmonary Interstitial Emphysema.—*Dr. Jos. M. Smith* then mentioned a case of which had recently occurred at the New-York Hospital, the following details of which were subsequently furnished by E. T. Richardson, M.D., senior assistant physician to that Institution.

Henry Pasely, 28 years of age, native of Switzerland, by occupation an hostler, was admitted to the New-York Hospital June 14th, 1839, at 10 o'clock, P. M.

He states that his habits have been perfectly temperate, and that he has enjoyed uninterrupted health for the last seven years, till this morning, when he began to experience a sense of general uneasiness. He nevertheless, attended to his usual duties, and in the morning drove the carriage to the city. About noon, feeling more unwell, he went home (in the suburbs of the city) and took a dose of castor oil, which operated once. At about 4 o'clock, P. M. he got into an omnibus to return to the lower part of the city, but on account of dyspnœa, which he then began to experience, was soon compelled to get out and walk. He went to the house of a gentleman in Broadway, where he took some cathartic pills, but without any benefit.

As the difficulty of breathing was very great and still increasing, at half past seven o'clock, P. M., he applied for advice to Dr. Cheesman. On examination, Dr. C. found the action of the heart very much embarrassed, and the pulse at the wrist scarcely perceptible. After a consultation with Dr. Dering, he attempted to bleed him from the arm. Not more than two or three ounces of blood were taken, when the patient fainted. Water was then given him to drink, but he was unable to swallow it on account of spasmodic action about the throat. He soon rallied, however, and the blood was allowed to flow again. The whole quantity taken was about twenty ounces. He then expressed himself relieved; the action of the heart became more free, and the pulse rallied in some measure. At this time, the only prominent symptom was extreme dyspnœa.

Sinapisms were applied to the chest, and the feet and legs were bathed in hot mustard water.

About one hour after, Dr. C. called again to see him, and found him still getting worse. He gave him a pill of camphor and opium, which was swallowed with great difficulty. At this time, external emphysema was observed on the right side of the neck.

At 10 o'clock, P. M., by the advice of Dr. C., he was brought to the hospital.

On admission, he was labouring under extreme dyspnœa, and orthopnœa; which was attended by evident and frequent exacerbations. He had also a constant cough and expectoration of thin mucus. His extremities were cold; pulse feeble; countenance anxious. The subcutaneous cellular tissue on the anterior part of the chest and neck was infiltrated with air.

He was very soon placed in a warm bath, but became faint in about ten minutes, and was removed. After this, sinapisms were applied to his abdomen and lower extremities. An attempt was made to give him some morphine, but he was unable to swallow. For a time his respiration became a little easier, and the paroxysms were less frequent. He complained of nausea, but did not vomit. He gaped frequently. He complained of pain in the neighbourhood of the right nipple, which was increased by pressure.

The relief afforded by the above treatment was but transient. The dyspnœa soon became as severe as before, and continued to increase through the night. At about 3 o'clock, A. M. (15th,) the sense of suffocation had become so great that he could no longer be kept in bed, and he began tossing about very violently, and made strong efforts, as if toget rid of some obstruction in the respiratory tubes. Each expiration was performed violently (with a sort of cough,) and was accompanied by a frothy muco-serous expectoration. His struggles were such that, to prevent his injuring himself, it became necessary for several men to hold him constantly. During the exacerbations, there seemed to be spasmodic action of the respiratory muscles at each act of respiration, and occasionally, the same was observed of the other muscles.

From the time he left his bed, he seemed to prefer a position leaning forward, as he sat on the bed side, with his head as low as possible, and when he was raised upright, he complained of suffocation. In the course of the morning, the external emphysema had become so extensive over the trunk, arms, neck, and face, and the distension so great, that incisions were made through the integument on the anterior part of the chest to allow the air to escape. The tension of the skin was relieved by this operation, but no effect was produced on the respiration.

In this manner he continued to struggle, becoming less violent as his struggle declined, till about 12 o'clock, M. when he expired.

During the last few hours, the expectoration was very abundant and watery, and for the last hour, it was tinged with blood. He appeared to retain his consciousness and intelligence to the last moment.

Autopsy 5 hours after death.

The face, neck, trunk, and arms, presented a bloated appearance from the presence of air beneath the skin. The muscles were very much congested with dark blood. When the first incision was made through the parietes of the right side of the chest, *it was thought by some of those present that air escaped.* On removing the sternum, *the right lung was found collapsed and lying flat against the spine.** The cellular tissue in the anterior mediastinum was found distended with air. The left lung was expanded and filled that side of the chest.

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* Hardly any doubt, we think, can be entertained that the direct cause of the distressing and fatal dyspnœa was the effusion of air into the cavity of the right pleura. ED.

An opening was now made in the trachea between the thyroid and arytenoid cartilages, and a tube was introduced to inflate the lungs. Both lungs expanded well; and after a few minutes, air was seen entering, from the right side, into the cellular tissue and the pericardium. The tube was small, and the force used could not have been sufficient to rupture the lung.

The heart was next examined. The whole muscular tissue of this was of a deep livid colour. The auricles, more especially the right, were very much distended with blood. On opening the cavities, the left ventricle was found to be hypertrophied without increased size of the cavity. The right ventricle was about normal. The valves on both sides were normal. The ventricles were comparatively empty. The blood in the heart, as well as that in the vessels, was fluid.

The lungs were now carefully removed with the trachea, larynx, œsophagus, and tongue. These latter parts were found normal, except that they were livid from the injection of dark blood. The right lung firmly adherent by old adhesions to the diaphragm, and also near the summit to the walls of the chest.

Vesicular emphysema existed in both lungs. The interlobular cellular tissue throughout both lungs was found infiltrated with air. This was most marked in the right lung.

Careful search was made to find the place of the rupture, but without success.

The stomach and other organs were examined and found healthy.

Poisoning by Corrosive Sublimate. Dr. Johnston related a case of poisoning by corrosive sublimate. It was dissolved in gin, by the smell of which the patient, who was cleaning house, was attracted, and took a draught; she concealed her mistake for half an hour, when her sufferings compelled her to reveal it. Dr. J. was then called, and found her vomiting, and with a sensation of severe burning in the stomach. He gave her nothing but the whites of eggs and warm water. She vomited all day, and had cramps, cold sweats, very feeble pulse, &c., and he thought, for 24 hours, that she would die. Severe gastritis followed, which was treated by leeches and abstinence, and the patient is now nearly well.

Peculiar Case of Enteritis. Dr. Hoffman then presented the following interesting account of a case, in which strangulation had taken place in a portion of the ileum, producing such complete obstruction that the fluid contained in the upper portion could not be made to pass into that below, and exhibited the morbid specimen illustrating the case.

At 9 P. M. Saturday, June 22, 1839, was called to visit, in consultation with Dr. Green, a Captain F., who had arrived here from a port in Massachusetts a few days previously, in a brig under his command, and in good health. I learned that his bowels had been freely opened on Thursday morning, and that, in the afternoon of that day, he had been seized, without any assignable cause, with a severe pain in the right iliac region, which continued, with occasional vomiting, during the night, and that on Friday, he sent for Dr. Green, who, with the intention of evacuating the bowels, had had recourse to bleeding, calomel, tobacco, and other injections, croton and castor oil, but without effect; and that about an hour before my visit, he had used a vapor bath, by seating the patient over a tub of warm water into which heated bricks were immersed, which had induced a general and free perspiration, with mitigation of the pain. Some of the calomel and the last two doses of castor oil had been retained on the stomach, and *after ascertaining that no hernial protrusion* existed to account for the symptoms, we agreed to leave the patient undisturbed, and to see him again in 2 hours (at 11 o'clock). After this interval, the medicine had not operated per anum; the vomiting had recurred, and the distressing pain of which he complained was referred more especially to the epigastric region, which, with the abdomen generally, was hard and sensible to the touch; pulse frequent and tense, respiration anxious, face suffused and of mahogany colour; feverish heat of skin, thirst, with a preference for hot drinks, with feelings of great prostration of strength and restlessness. Apprehending inflammation of the peritoneal coat of the intestines, and the patient being of middle age, good constitution, and temperate habits, venesection was repeated, and was borne, while sitting up, to the extent of from 24 to 30 ounces, before any decided effect was produced on the pulse. To relax the bowels, calomel and ipecac. in 10 gr. doses were directed to be taken every 2 hours during the night. The following morning (Sunday), we found that our patient had had some sleep, had vomited less frequently, and had retained three doses of the medicine. There was less heat of skin, but increased frequency of pulse; the bowels still locked up, tense, and tender to the touch. Eighteen leeches were directed to the epigastric region, to be followed by a warm poultice. Twenty grains of calomel, 2 drops of croton oil, infusion of senna in small doses frequently repeated, copious enemata of tepid water, and of strong infusion of senna, and tobacco injections were resorted to during the day and evening, without procuring any fœcal discharge. He now expressed a wish for cold in preference to hot drinks, and ice was prescribed, and taken with avidity. At bed time, an epispastic was ordered to be applied to the region of the stomach, and a suppository of 10 grains of good extract of stramonium was introduced into the rectum. Divided doses of Seidlitz powders were directed to be given during the night, and brandy and water, if the skin became cold. At 6 A. M. on Monday morning, we learnt that he had vomited frequently during the night, that no discharge had taken place from the bowels, and we found him sinking with symptoms of gangrene of the bowels, without having had any fœcal discharge from the commencement of the attack; the vomiting was not stercoraceous. He died at 8, A. M. the same day.

Autopsy, four hours after death; abdomen incompressibly hard, and not very tumid; a thick layer of adipose substance covered the abdominal muscles, which were rigid and deeply coloured. On incising the peritoneum, a bloody serum flowed out, and the small intestines protruded forcibly, presenting a dark red appearance. On exposing the cavity, the omentum was found contracted; the transverse colon and stomach entirely concealed by the distension of the small intestines, and forced into close contact with the diaphragm, which reached up to the 4th rib. The stomach contained very little fluid, but the jejunum and ileum were enormously distended with a stercoraceous fluid. On tracing and laying them aside, a strangulation in a portion of the ileum was found in the right iliac fossa, appearing as if a knot had been tied in the intestine, and the obstruction was so complete that the fluid contained in the upper portion could not be made to pass into that below. A membranous band, resembling in its texture the mesentery, about 2½ inches in length, extended from the anterior face of the colon just above its valve, and connected itself with the surface of the ileum, opposite to the attachment of the mesentery to that bowel, and beneath this, a duplicature of the ileum had passed and become strangulated as in hernia, causing approaching gangrene and the death of the patient.

Imperforate Rectum.—*Dr. Hoffman* also read the following case, in which he operated with success.

On the 9th inst. was called on by the family physician to visit a male infant of Mrs. P. He informed me that the child was born on the Thursday preceding, and had not had any discharge from the bowels; that the anus existed, and was pervious to about half an inch, and the rectum closed, so as to prevent the passage of a probe or bougie, or any fluid injection. I found the belly swelled, and the child crying, as if in much distress, and vomiting frequently. With the extremity of the finger introduced into the anus, a complete septum could be felt, but no impression was made on the finger by the straining efforts of the child, which made it more doubtful if an incision or puncture could remove the obstacle. A trocar used for paracentesis was guided by the end of the finger and carried upwards and a little backwards for an inch or more, when the resistance ceased, and the stilet was withdrawn, tinged with meconium. The canula was then carried fully up, and meconium discharged through it. The pipe of a glyster syringe was now introduced, and some cold water injected, which was followed by a copious discharge. There was very little blood lost, and no very unpleasant symptoms followed. The child is thriving and in good health.

Regular Meeting, Aug. 28, 1839. *Balsam Copaiba in Cholera Infantum.* — *Dr. Conger* mentioned a case of cholera infantum in a child, 14 months old in which he had used balsam copaiba with happy effect. The patient had been suffering from pain, and diarrhœa, with dark, bilious, and sometimes watery discharges, accompanied with tenesmus. After a dose or two of calomel, followed by castor oil, the fever subsided in three or four days, and there were then free mucous discharges mixed with blood. He now gave balsam copaiba in an emulsion made with the yolks of eggs and cinnamon water; a teaspoonful of the emulsion, containing one drop of the balsam, being given every two hours, which was afterwards increased to 1½ drops at a dose. The effect on the discharges was very favourable.

Dr. Bliss remarked that he had derived benefit from the use of balsam copaiba in the form of hemorrhoidal disease, attended with excessive pain when the fœces are evacuated, which is the most common form in pregnancy.

Prevalence of Diseases from Local Causes. — *Dr. Macdonald* made some remarks on the prevalence of diseases from local causes, and gave the result of some observations made on a recent visit to a place on the eastern part of Long Island, (East Hampton.) He found certain diseases of the nervous system very prevalent there, as *insanity*, *chorea*, and *tetanus*. The first two were found in the same family, chorea first appearing, and afterwards insanity. He attributes the occurrence of these to the intermarriages which have taken place among the members of a few particular families. It seems that the place was settled early by about 20 families, among the members of which these intermarriages have taken place, and insanity has become very common among them. Three of the aunts of the patients whom Dr. M. visited were insane. The cases of chorea at this place are generally of long duration, and often continue until old age. Tetanus also prevails to a remarkable degree in the same place. This is of later origin, and is attributed by the inhabitants to the introduction of fish as a manure, which has taken place within a few years. They first began to use fish for this purpose at South Hampton, about 16 miles distant, and it was remarked by the farmers at East Hampton, when they first began to use them in that place, that they would have tetanus. One or more cases occur every season; it affects men, horses, and cattle. It is generally traumatic, and prevails more frequently in summer. Dr. M. thinks that the tetanus is owing to the same cause as the insanity and the chorea; and that the only difference is, that they began in different parts of the country. He has also found chorea frequent at three other places. It is very common in West Chester, where families have also intermarried, and where children are almost sure to have it when they grow up.

Asiatic Cholera. — *Dr. Bliss* stated that he had met with two sporadic cases of *Asiatic cholera* during the last month, as distinctly marked as any he ever saw — one of them proved fatal. One occurred in Hammond street, and the other in the 3d Avenue. In the fatal case, the patient had a severe attack of severe inflammation of the lungs in the spring, and his health had not been good since; but he was temperate, and industrious in his habits — there was no obvious exciting cause. He had had diarrhœa for two or three days, but was at work the day before he died. Dr. B. first saw him at 10, A.M., and when he had been under treatment some hours; he was then cold and livid, and almost pulseless, and died before 3 P. M. The other patient was in a state of collapse, and warmth was only restored at the end of 10 hours. Calomel in large doses and external warmth were used in both cases, and also ice to allay the vomiting — no stimulants were given.

Dr. Bliss also mentioned a recent case of a dead fœtus at the full period, with *hydrocephalus.* Decomposition had commenced, and the cuticle had separated. The head contained at least a quart of fluid. It retarded labour, and made it more painful; but did not render it necessary to puncture. The incipient decomposition made the parts more yielding, and led to the idea at first that there was merely a large quantity of liquor amnii; but the nature of the case was learnt early by distinguishing the edges of the cranial bones.

Injury of the Head. — *Dr. Post* related an interesting case of injury of the head, in a man who was struck with a carpenter's square. The blow was received just above and behind the left ear. The patient remained sensible a few seconds after the blow, and then became unconscious, and was entirely insensible when brought to the N. Y. Hospital. The pupil of the injured side was dilated, that of the opposite side contracted. Dr. P. could not ascertain by examination with the finger whether there was a fracture, but found, by making an incision, that there was one, though there was but very slight depression of the bone. The operation of trephining was performed, and the dura mater and the brain were found so much lacerated that he could introduce his finger. A considerable quantity of blood had flowed from the middle meningeal artery. The pulse, which was 46 or 47 before the operation, rose to 60 after it, and varied between 60 and 90 from that time, till the period of his death —the pupil which was dilated became contracted, but the coma continued complete. The patient lived 36 hours after the operation. There was spasmodic twitching on the same side with the injury; the other side was nearly motionless. On examination after death, he found that the fracture of the bone extended from behind and above the left ear over the whole region of the temple, and terminated over the roof of the orbit of the right eye. The fracture was double on the left side, an inch of bone being bebetween the two fissures. There was blood on the surface of the brain, and also laceration of the brain communicating with a cavity in the cerebrum, as large as an egg, and this again communicating with the lateral ventricle, and both distended with coagulated blood. The cavity corresponded with the fissure of Sylvius. Dr. Post thinks that it was formed by a wound of the middle cerebral artery by a splinter of bone. It was one of the most extensive internal injuries he had ever seen with so slight marks externally; the wound of the scalp was not more than half an inch in length. A remarkable feature in the case is, that a wound inflicted by a pointed instrument on the temporal bone, at a part where it is so thin, should give rise to so extensive a fracture, instead of penetrating more deeply.

Regular Meeting, Sept. 25, 1839. *Cerebral Apoplexy.*— Dr. Buel related the following case o cerebral apoplexy which occurred in an infant aged four weeks and some days, which he was called to see, July 21. About five days previous to the visit, it was seized with convulsions without apparent cause, having been previously, to all apearance, a healthy child. A physician had seen it before me, and administered some powders. The warm bath had also been used.

I found it with severe spasms in the trunk and extremities, recurring at short intervals. The head was excessively hot; and the superficial veins of the scalp turgid. Two leeches were directed to the temples, and a grain of calomel every two hours, until a cathartic effect should be produced.

22d. Five or six grains of calomel were taken, but produced no effect, until an enema was given. The spasms were not at all relieved. The pupils were contracted; but no strabismus existed.

Assafœtida injections were ordered, and the spine directed to be rubbed with stimulating linament.

23d. The violence of the spasms was increased; every muscle in the body seemed to be affected. Those of the cheeks, lips, tongue, and eyeballs, were in constant and violent motion, producing the most grotesque contortions. The child uttered frequent and piercing cries, which could be heard at a considerable distance. The pupils were contracted nearly to a point. A drop of Majendies' Solution of Morphine was directed to be given, and repeated every hour until the violence of the spasms should be controlled. After taking eight drops in as many hours, a partial calm ensued.

24th. The spasms are less violent, and have assumed somewhat of a tetanic character. The morphine was continued in occasional doses, and the child, having refused the breast for several days, was directed to be fed with the mother's milk.

25th. Same condition. Great rigidity; the child bent backwards into an arc of a circle, so as, when laid upon its back, to be supported upon the head and heels. Her pulse and skin were nearly natural. Pupils contracted.

26th. Same condition, with more debility; on account of which a small quantity of wine was added to the mother's milk.

From the 26th to the 29th no change occurred. On the morning of the 29th, the rigidity was relaxed. The pupils became dilated. The urine appeared to be suppressed; as none was passed, although no fulness existed in the hypogastrium. At 12 in the night of the 29th, the child expired.

Autopsy, 12 hours after death. The external appearance presented nothing remarkable. On opening the head, a good deal of serum escaped. An ounce or more of bloody serum was found at the base of the brain. Lying upon the right hemisphere, nearly two-thirds of which it covered, was an extensive and tolerably firm coagulum of blood. It lay under the arachnoid membrane, and dipped down between the convolutions of the brain. The floors of the lateral ventricles were covered by a pretty dense layer of lymph. The substance of the brain was softened to a semi-fluid consistence. The thoracic and abdominal viscera appeared natural. The bladder was empty.

Dr. B. remarked that the existence of a coagulum upon the brain, which, in the adult, produces a loss of muscular action or paralysis, in this case occasioned a more violent action of the muscles.

Dr. Post explained this, by supposing that the coagulum which, in the adult, produces pressure on the brain, in the present case, owing to the more yielding character of the cranial parietes, only acted as a cause of irritation.

Granular Degeneration of the Kidney.—Dr. B. also mentioned a case of nephritic disease, the symptoms of which he thought corresponded with those described by Bright, Willis, and others, as attending granular degeneration of the kidney. The urine was decidedly albuminous; a specimen of it which was exhibited, threw down a copious flaky deposit, on the addition of a few drops of nitric acid. The patient was a gentleman aged about 40, who had formerly led a somewhat irregular life. About a year since, after a shooting excursion, having got his feet wet, and indulged pretty freely in mint juleps, he was attacked with a severe pain in the region of the kidney. The physician who saw him in the country, gave him mercury and salivated him. After his return to the city, he consulted Dr. B., who prescribed a regulated diet, warm clothing, warm bath two or three times a week, and a course of bitter tonics, with alkalies. By pursuing this course for several months, he remained tolerably comfortable, though subject to severe attacks of pain in the kidneys, on the least imprudence. In the summer he visited the White Sulphur Springs, but received no benefit. While there, was attacked with hemorrhage from the bladder. He is now suffering with irritability of the bladder, and is obliged to rise many times in the night to pass his water. The urine has an opalescent appearance, with strings of mucus floating in it. The quantity is about natural.

He has been sounded for stone without finding any. His general appearance is unhealthy; pulse 90, and feeble. There are no symptoms of dropsy. His appetite and digestion are pretty good. He has been using Dover's powders; but they occasioned costiveness, and affected his head so unpleasantly, that he was unwilling to continue them. He is now taking the infusion of buchu, and using enemata of starch and laudanum.

Dr. Macdonald mentioned a remarkable case of *albuminous urine* in a black man, 20 years old, who was under his care in the N. York Hospital last summer. There was ascites, and also anasarca of the legs, scrotum, &c. No disease of the heart was detected on examination, and no cause for the dropsy found, until his urine was examined. A teaspoonful of this held over a candle yielded a coagulum of ¾ its quantity. There was some pain in the region of the kidneys. Diuretics were used without benefit. At last, under the use of a combination of equal parts of jalap and cream of tartar, of which he took one drachm daily, the effusion in the cellular tissue passed off in three weeks. His urine still continued albuminous, but less so than it had been.

Dr. M. also exhibited a remarkably fine specimen of the pathological lesion of the small intestines, which is found in the *typhoid fever* described by Louis, taken from the body of a man who had recently arrived in a Havre packet. Dr. M. did not see him until after his death, but the symptoms as described to him seemed to be those of that form of fever. The *plaques de Peyer* were very much elevated and in one instance ulcerated. The solitary glands were also remarkably large and distinct.

Operation for remedying a Deformity of the Knee.— *Dr. Post* related the case of a patient under his care in the N. York Hospital, with deformity of the knee, which had existed for 28 years. The leg was very much flexed on the thigh, so that he was obliged to walk with a cane, and could not extend it much beyond a right angle. He fractured his thigh, and on that account, was brought to the Hospital. For the purpose of straightening the limb, Dr. P. divided the tendon of the biceps, and of the semi-membranosus and semi-tendinosus muscles. The leg was then placed in an apparatus for producing extension, and is now within thirty degrees of a straight line. The starch bandage was applied in 8 or 10 days, and the patient is now walking about. Dr. P. made some remarks on the greater frequency, than formerly, of the division of tendons for the relief of deformities of joints, and remarked that it had been found that these deformities depend more on muscular contraction than was formerly supposed.

At the Anniversary meeting held Oct. 30, 1839, all the officers of the Society were re-elected for another year.

The following Resolution was also passed:

Resolved, That at any regular meeting of the Society, the gentleman at whose house the meeting is to be held, may have the privilege of inviting medical men who are not members of the Society, and that other members may have the same privilege, on application to the gentleman at whose house the meeting is to be held, it being understood, that the whole number invited at any one meeting shall not exceed three.

State of the Bones of the Cranium two years after Trephining.— *Dr. Buck* exhibited a specimen of bone of the cranium, for the purpose of showing the manner in which the openings in that bone are closed after trephining. The operation was performed by him 2 years ago in July last, on a patient who has recently died of Phthisis. The injury for which the operation was performed was a blow by a block, which caused a depression of the bone without injuring the dura mater. The edges of the outer table of the bone were found to be rounded off gradually, and the pericranium to be closely adherent to them and to the adjoining parts of the dura mater, which was much thickened, and formed a firm covering to the aperture made by the instrument and the depressed pieces of bone removed — the aperture thus covered being nearly circular, and between two or three inches in diameter. Near the centre of this firm fibrous membrane, was a depression, nearly circular, about the size of a five cent piece, where the membrane was thinner than elsewhere, the edges of which were elevated above the surrounding surface. An opinion was also expressed that the pericranium passed over the whole surface of the dura mater, and was united to it by condensed cellular tissue, instead of terminating at its edges.

Fistulous opening upon the side of the Neck, communicating with the Œsophagus.— reported by Dr. J. K. Rodgers. The patient, Alexander Paterson, aged 23 years, of scrofulous habit, states that about 8 years ago, the lymphatic glands above the right clavicle became enlarged. A year after, a tumor formed on the right breast, which suppurated in about six months, and continued open perhaps 3 years, leaving a deep scar there. About six years ago, two fistulous openings occurred in the neck; the lower one about an inch above the centre of the right clavicle, the upper one an inch and a half above that, and on the anterior edge of the trapezius muscle. On the voyage to this country five years since, these openings healed. After an interval of a year, they again appeared, and six months afterwards he discovered, for the first time, that food and drink escaped through them — Dr. R. saw water which the patient had taken in his mouth, pass through them. He considered them as scrofulous glands which had first suppurated, and afterwards communicated with the œsophagus. Dr. R. knows of but one case of a similar kind on record, and this was recently reported by Mr. Cusack in the Dublin Journal, from which it was copied into the last number of this Journal. In that case, the opening seems to have originated in the œsophagus. In the present case, there can be no doubt that it began in the glands, and the ulceration extended first outwards and then upwards, as if by accident, to the œsophagus.

New Mode of Preserving Subjects for Anatomical Purposes. By Drs. Babington & Rees.

The authors of the paper before us, after mentioning the inconveniences, or inefficacy, of the ordinary modes of preserving bodies for dissection by immersing them in acids, alcohol, &c., instituted a series of experiments with the hope of ascertaining some better mode of effecting this object. After a long time, they succeeded in discovering a method by which this important object, so indispensable to institutions removed from the ordinary facilities of obtaining subjects, appears to have been very satisfactorily obtained. The process consists in injecting the body from the aorta with pyrolyxic spirit, as a substitute for kreasote which is much more expensive. The experiment was first tried by injecting two rabbits which, after having been exposed to the air for two months, (December and January,) were found to be as fit for all the purposes of dissection as the day they were killed. The same experiment was repeated by injecting, through the aorta, the body of a man, six days after death. The body was exposed during the summer weather for 40 days, when it was examined, and eight gentlemen, who dissected it, testified that every anatomical purpose was as fully answered as if the subject had been quite recent. The various parts, on being laid open, were of natural colour and of firm texture, and when exposed by dissection, instead of putrifying, became hard. The brain alone was soft, semi-putrid, and unfit for demonstration; but then the body was not injected until six days after death, so that it was probably in this condition before the injection was tried. Portions of the body being afterwards injected with wax, it was found to penetrate as readily as is usual into the smaller vessels. The advantages of employing pyrolixic spirit are, its extreme fluidity, its freedom from colour, its cheapness; for a gallon is sufficient to inject a full grown subject, and it is only half the price of alcohol. It also readily mixes with water, is innocuous, and without any corrosive action upon steel instruments. Of this fluid, which must not be confounded with the pyro-ligneous acid, or with the pyro-acetic spirit, a full account may be found in the "Annals of Philosophy," N. S. viii. 69.

Guy's Hospital Reports.

*Cases of Acute Hydrocephalus.** By P. H. Green, M.B.

Case I. [*Meningitis, without effusion into the ventricles, or softening of the central portions of the brain. Vomiting; pain in the head; delirium; convulsions, fatal with coma on the third day.*]

Maria Vanvoort, seven years of age, was admitted into the Hospital of Sick Children, Paris, on the 13th of May. Her complexion is fair, eyes blue, hair light; had the measles at the age of three years, and the whooping cough at the age of six years. She appeared to enjoy good health when she was suddenly seized with vomiting of bilious matter on the 12th ult. which continued throughout the day, unaccompanied by any other symptom. On the night of the 12th, however, she complained of pain in the head, ground her teeth, and started in her sleep; there were also occasional movements of the lower jaw, with delirium; while being carried to the hospital on the morning of the 13th, the head was thrown backwards and the body, several times, became stiff.

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* The author of the following cases, classes the two first as acute Meningitis, while the two following, he classes as acute Hydrocephalus. We have taken the liberty to place them all under one name. If we consider the latter disease to be as Dr. Abercrombie does, an acute inflammation of the central portions of the brain, then not only the first case, but perhaps also the third, will belong to Meningitis. But the truth is, in the present state of our knowledge, we cannot make such nice distinctions with any practical advantage. It will at once be evident to the reader of the

May 13th. Complete loss of consciousness; somnolence, alternating with agitation; constant motion of the lower jaw; pronounces a few words imperfectly and without connection; deglutition impossible; sight gone; pupils moveable and but little dilated; respiration accompanied by sighs; no vomiting since last night. Eight leeches behind the ears.

At three o'clock, P. M. a convulsive attack came on, resembling epilepsy, which lasted two or three minutes. Immediately afterwards the pulse was 130, small, but regular.

May 14th. Coma; alternations of colour and paleness of the face; acute cries every now and then; grinding of the teeth; nostrils dry; conjunctivæ injected; pupils contractile, moderately dilated; tongue moist and pale; has vomited a little this morning; abdomen contracted and free from pain; bowels not moved since admission; no rigidity of limbs or convulsive movements; the sensibility of the skin unimpaired; deglutition still impeded; urine passed involuntarily; respiration unequal, 44; pulse small and regular, 172; no flatness on percussing the chest; no rattle. Calomel 4 grs. Jalap 2 grs. to be taken in 3 doses. Warm bath at 27°; cold affusion at 18°; sinapisms to the legs.

The child was much agitated in the bath, which was repeated in the evening, at 15°. After coming out, she lay in a state of profound coma, with the head strongly thrown backwards; the sensibility of the skin was now diminished; and in this state she lay until 7 o'clock, when she died, without any convulsive struggle.

Post-mortem examination, 39 hours after death.

Nervous system. — Dura mater healthy; the superior longitudinal sinus contains a fibrinous clot; no fluid in the great cavity of the arachnoid, which is extremely dry; pia mater on the surface of the brain much injected, but without infiltration of serum, or pus, or granulations; the injection is more marked on the convex surface of the brain than at its

following excellently observed cases, that they all belong to the same class of diseases which, if limited by the actual accuracy of our means of diagnosis, might be properly called *acute inflammation of the brain in children.* — EDITOR.

base. The membranes are easily separated from the cerebral substance to which they are not adherent at any point. The nervous matter is firm with some injection of the medullary substance; no softening at any point. The lateral ventricles present a normal appearance, and contain merely a teaspoonful of clear serum.

Cerebellum and spinal marrow, carefully examined, are of a healthy appearance throughout.

Respiratory system. — The mucous membrane which lines the trachea and bronchi is of a light violet color; both lungs congested posteriorly; a few crude tubercles at the summit of the right lung; no effusion into the cavity of the chest, or adhesion of the pleuræ.

Pericardium and heart normal.

Alimentary Canal. — Lining membrane of mouth and œsophagus healthy; mucous membrane of stomach pretty firm, of a yellow-grey colour; lining membrane of intestines pale throughout; glands of Peyer are developed, but pale: no worms.

Other viscera healthy.

CASE II. — [*Tabes mesenterica; tubercles also in the lungs. Pain in the head; sudden coma; paralysis. Death ten days after the first supervention of the cerebral symptoms. Meningitis; softening of the central portions of the brain.*]

Eliza de Hainot, eight years of age, admitted June 12th. This child is of a scrofulous constitution, and has been repeatedly ill during infancy; at the age of four years, she had measles in a light degree. Since the last 12 months she has been constantly ailing; has had cough; pains in the belly and occasional vomiting; diarrhœa alternating with constipation; for the last two months irregular accesses of fever, loss of flesh, night sweats, &c.

June 13th. The child's face is now pale and thin; the skin dry, the abdomen much developed. On pressing the fingers round the umbilicus an agglomerated tumour as if produced by enlarged mesenteric glands is felt; tongue clean; thirst excessive; appetite almost completely lost; no vomiting; abdomen painful on pressure; five or six liquid stools in the day; the pulse is 92 in the morning, but much more accelerated at night; respiration natural; cough not frequent; percussion elicits a slightly dull sound on the right side of the chest; large mucous rattle on both sides; *no pain in the head;* no lesion of mobility. The child was placed on a milk diet, and some mild astringents were administered to check the diarrhœa.

On the 30th June, she began to complain of some pain in the head, and on the third of July she received a fall in which she wounded herself, though not severely, over the right eyebrow. For the next two days, the child seemed to suffer nothing, and made no complaint, but on the night of the 5th of July she suddenly fell into a state of coma.

July 6th. Profound coma; no answers to any questions; limbs completely relaxed; right pupil enormously dilated and immovable, the eyelid paralyzed; the left one is contractile and moderately dilated; sensibility of skin obtuse, particularly on the right side; when the skin on the left side is strongly pinched the child emits a feeble groan, and contracts the muscles on the left side of the face; no convulsive movements of the limbs, but the head is drawn to the left side; the tongue is clean, and the power of swallowing preserved; abdomen is still painful on pressure, but the bowels have been constipated for the last two days; respiration slow and unequal; pulse 72; slight cough. Four leeches behind each ear; purgative enema; sinapisms to legs; hydromel.

July 7th. Lies in the same state of coma; pupils present the same appearance; the face is now much coloured, and the head is no longer drawn to the left side; no rigidity of the muscles of the neck; the limbs in a state of complete paralysis, and the sensibility is equally dull on both sides; respiration 36; pulse 80, intermittent. The purgative enema has not produced a stool. Calomel four grs. in two doses; enema with two ounces of manna, and two drachms of senna.

July 8th. Lies nearly in the same state; the paralysis of the right eyelid persists, and the pupil is so enormously dilated that the iris can scarcely be seen; the left pupil and eyelid still contract; the patient emits every now and then a low moan; evacuation passed involuntarily. Blisters to the legs.

July 9th. The coma is still deeper; the pupils remain in the same state; respiration 28, with dilatation of the alæ nasi: pulse 128.

Death at 4 o'clock, P. M.

Post-mortem Examination, 17 hours after death. *External Appearances.* — Body excessively thin; the long bones curved; spinal column curved to the left side; a large mass of scrofulous glands in the right axilla; the right iris is now of the normal size; the wound over the eyebrow had merely divided the integuments.

Nervous System. — The skull had not been injured by the fall; on dividing the dura mater, about two ounces of clear serum escaped; the sub-arachnoid cellular tissue is infiltrated with a quantity of the same fluid. On the convex surface of the brain, near the border of the great fissure, at its middle, the arachnoid presents an opaque appearance, but it separates easily from the surface of the brain; the cerebral substance is, generally speaking, soft, but not much injected; the lateral ventricles contain each two ounces of clear serous fluid; their surface seems to be in a normal state, but the fornix and the posterior inferior portion of the corpus callosum are completely softened and reduced to a whitish pulp; the optic thalami and the origin of the fifth pair of nerves are healthy. In the occipital fossæ are two or three spoonfuls of clear serum; the membranes at the base of the brain are much injected, but not adherent at any point, and they are free from granulations. Cerebellum and pons Varolii healthy.

Respiratory System.—Mucous membrane of the larynx, trachea, and bronchi, perfectly healthy; the bronchial glands are converted into tubercular masses; ancient and extensive adhesions between the right lung and costal pleura; this lung contains miliary tubercles, which are more numerous at the summit than at the base; some passive congestion of the organ. In the left lung, there is no adhesion of the serous envelope, although the costal pleura is studded with tubercles of various sizes, which also exist under the pleura pulmonalis.

Heart and pericardium normal.

Digestive Apparatus.—The centre of the cavity of the abdomen is occupied by two tubercular masses, formed by diseased mesenteric glands; the glands surrounding the liver, spleen, and pancreas are also tubercular. The surface of the intestines is studded with a multitude of whitish granulations, but no where have they given rise to any inflammatory action. The mucous membrane of the great curvature of the stomach is softened without injection, the remaining portion being healthy. In the small intestines there are a few tubercles disseminated in the submucous tissue; about two inches from the ileo-cœcal valve, there is a large circular ulceration, nearly an inch broad, with ragged borders, and surrounded by fragments of softened tubercular matter; the remainder of the intestinal canal is in a normal state. The convex surface of the liver is adherent to the diaphragm, and its surface is studded with grey miliary granulations which also exist on the surface and in the substance of the spleen. Kidneys healthy.

CASE III.—*Headache, constipation, and vomiting at the commencement of the disease; coma on the 7th day, which persisted to the termination in death. Infiltration of green-coloured serum at the base of the brain.*

Leonore Bereille, seven years of age, was brought to the Hospital of Sick Children, Paris, on the 2d of April. The child appears to have been endowed with a strong constitution; father and mother both healthy; she had been in Paris for six months only, and had enjoyed during that time perfect health. Six days ago was suddenly seized with headache and vomiting; the latter symptom ceased in the following day, but the headache continued extremely severe; the sight now became feeble and was even lost at moments. The child, however, was not compelled to remain in bed, but was able to ascend to the fourth story on the first of April. On the morning of April 2nd, she was seized with alternations of agitation and somnolence, and her answers were somewhat incoherent.

April 3d. The child lies in a state of somnolence; the face flushed in spots; returns no answer when spoken to; eyelids closed; pupil dilated, but slightly sensible to the light; abdomen retracted and free from pain on pressure; no stool since the commencement of the disease; no paralysis or convulsive movements of the limbs, or of the muscles of the face; sensibility of the integuments natural; deglutition not affected; from time to time she emits a slow and inarticulate cry. Four leeches behind each ear; injection of senna and mercury; sinapisms to the legs; abstinence from all food.

April 4th. Alternations of flushing and paleness; pupils dilated and motionless; the child cannot see; since this morning she grinds the teeth now and then, and the jaws are a little stiff; occasional contraction of the arms; the sensibility of both sides of the body is still unaffected; respiration sighing, 24 a minute; pulse 120, small and occasionally intermitting; no stool; urine passed in bed; deglutition somewhat impeded. Calomel 8 grs.; jalap 4 grs., divided into 6 powders — one every two hours; sinapisms to legs; cold evaporating lotion to head; injection.

April 5th. The grinding of the teeth and coma persist; face generally pale, but flushing up when the child is moved; pulse excessively rapid, about 180; respiration 68; passed three fluid motions under her in bed, containing two ascarides; the other symptoms remain nearly the same; during the afternoon of yesterday, a slight bleeding took place from the nose. Blisters to the calves of the legs. Continue remedies.

April 6th. Muscles of the jaw fixed; the extremities rigid, and occasionally convulsed; the sensibility of the skin is now dull; the right eyelid paralyzed; complete blindness; pupils dilated; lies in a state of deep coma; pulse 176, respiration 40. Continue the calomel; administer at once a draught containing ether; cold lotions to the head — a seton was also passed through the back of the neck, but the child gave no signs whatever of being sensible to pain.

April 7th. Same state of profound coma; skin completely insensible when touched; limbs rigid from time to time; pulse and respiration are both extremely rapid. During the day the respiration became interrupted by the rattle of death and the child sunk early in the night.

Post-mortem Examination, 30 hours after death.

Nervous System.—The vessels of the dura mater are strongly injected; the arachnoid lining the convex surface of the brain is dry, transparent, and with the pia mater, is easily detached from the nervous matter; the pia mater of this part, though much injected, is free from adherences or infiltration; the lateral ventricles are not dilated, but contain about two ounces of greenish serum; the lower portion of the corpus callosum, the fornix and central portions of the brain preserve their normal consistence and appearance; the rest of the nervous matter is also healthy. Between the membranes, at the base of the brain, there is a considerable infiltration of greenish, opaque, serous fluid, which is likewise found between a few of the convolutions on the sides of the hemispheres; but here there is no trace of granulations, nor any adherence of the membranes.

Respiratory System.—Larynx, trachea, and bronchi, healthy. The bronchial glands are tubercular; lungs free from adhesion, but much congested and containing a few miliary tubercles; a few granulations on the costal pleura of the right side.

Heart and pericardium normal.

Digestive System.—Mucous membrane of the stomach pale; it is considerably thinned in circular bands, which run perpendicularly to the long axis, and are not far distant from each other. The small intestines contain five or six ascarides, and near the termination of the ilieum there is a good deal of injection. The colon, to appearance, healthy, as also the remaining abdominal viscera; not a single tubercle in the mesenteric glands.

CASE IV. *Acute Hydrocephalus. Death on the 20th day. Infiltration of the pia mater at the base of the brain; eight ounces of serum in the ventricles; softening of the whole of the central parts of the brain.*

Cecile Soinee, two years and a half old, was admitted into the hospital on the 16th of December.

The child had enjoyed, habitually, excellent health; had never passed any worms, nor suffered from convulsions, although two of her brothers have died of cerebral disease; the cutting of the teeth has not been accompanied by any accident; two of the lower molar teeth have pierced, the two others are pointing, without any heat or tumefaction of the gums.

On the 26th of Nov. (3 weeks previous) the child was seized suddenly and without any apparent cause, with convulsive movements, and with vomiting, which lasted three days, and came on whenever fluid was introduced into the stomach; she also ground her teeth occasionally during the following days. After the lapse of a week the patient was again seized with a more violent fit of convulsions, accompanied by cries, stiffness and spasmodic contractions of the limbs. She now ceased to speak, and in a few days, vision was also abolished and the pupils remained dilated. During the first 12 days of the disease the child had only two evacuations. Leeches were applied behind the ears on two several occasions, purgative injections were thrown up and warm baths administered, but without the slightest benefit.

Dec. 16th (day of admission.) The child lies in a state of deep coma; the face is flushed: the pupils widely dilated and vision lost; strabismus; no convulsive movement of the muscles of the face; no grinding of the teeth; respiration broken by low moans, every now and then: pulse 130; skin warm; no stool. Injection; 4 grains of calomel.

Dec. 17th. The coma persists; pupils more widely dilated; a portion of the ball of the eye is covered with an albuminous exudation; the muscles of the left side of the body are slightly contracted; some subsultus tendinum: the sensibility of the skin remains unaffected: deglutition not impeded; abdomen soft and free from pain; passed one dark and liquid stool during the night: respiration slow and plaintive; mucous and sonorous rhonchi all over the chest.

The child continued in the above state during the day, and died at night.

Post-mortem examination, 20 hours after death.

Nervous System. — Dura mater normal: the membranes which cover the upper surface of the brain are healthy and easily detached from all points, but the hemispheres are distended, and give a strong sense of fluctuation to the finger; the lateral ventricles are greatly distended and contain about eight ounces of turbid serum, holding in suspension a quantity of white flocci the remnants of the nervous matter. The walls of the ventricles are reduced to a mere pulp and present numerous irregularities of surface. The surfaces of the corpora striata are also rough and, as it were, eaten away. The fornix, the septum lucidum, the hippo campi, and a great portion of the corpus callosumare also softened, but without change of colour. The softening is not more remarkable at one side than at another. At the bace oft he brain, there is an infiltration of greenish semi-transparent matter, about two lines thick, in the pia mater,which corresponds with the space surrounded by the circle of Willis and a few tea-spoonsful or serum are found at the base of the cranium. The Pons Varolii and the cerebellum were healthy.

Spinal Marrow. — The nervous substance appears to be of a healthy colour and consistence, but there is a considerable quantity of turbid serum effused between the membranes.

Respiratory System. — The trachea is filled with frothy mucus. Some old adherences between the lungs and parietes of the chest. The pulmonary tissue is permeable to air throughout, but contains a great number of small, semi-transparent, gray granulations. Heart and pericardium normal.

Digestive System healthy throughout its whole extent.

[The author of the above cases concludes his paper by some valuable remarks in relation to them and to the class of diseases to which they belong, but which we have not room to introduce. We must admit with him we think, that the symptoms of acute hydrocephalus may exist without any inflammatory softening of the central portions of the brain or marked effusion into the ventricles, but with simple inflammation of the membranes, as in Case I. Our author is disposed to regard Case III. as an instance of the same thing, but we think he misinterprets his own case: the effusion of greenish serum into the ventricles was not improbably the result of inflammatory action.

The author also in alluding to the retraction of the abdomen in the same cases, remarks that it occurs in a well marked degree, and at an early stage, in numerous cases of acute hydrocephalus. Goelis regards it as almost pathognomonic of this malady.]

The most interesting point, he adds, in the last case, (Cecile Soinee) is to determine, if possible, the variations observed in the symptoms of the first stage. This stage was characterized by irregular accesses of convulsions and did not present the ordinary phenomena of headache, vomiting, drowsiness, &c., passing insensibly into a state of coma. We occasionally then find that acute hydrocephalus sets in with convulsions or epileptic access, especially in a young child; but whence this deviation from the normal type? I would suggest though with great reserve [see the above case] that it may depend upon the spinal marrow being implicated in the disease. In several other cases that I shall have occasion to describe hereafter, the occurrence of convulsions at an early stage coincided with softening of the upper portion of the spinal marrow. It is to be regretted that no information on this point can be obtained from writers on the cerebral diseases of children. — *Lancet.*

Anatomical Characters of the Epidemic Fever of Edinburgh, 1838 – 9. By JOHN REID.

This report is founded upon an analysis of 47 *post-mortem* examinations.

Brain. — This organ was examined in 43 cases. Increased effusion of serum within the cranium was observed in 25. The most common seat of the effusion was under the arachnoid. In most of the cases, the blood vessels were well loaded with blood.

Lungs. — Were examined in 43 cases. In 10 there was increased effusion of mucus into the bronchi: in 13 the posterior and middle parts of both lungs were gorged with blood and frothy serum, and some portions were so dense as not to crepitate, but without granulations: in one case only was there recent pneumonia. In 15 cases the lungs were perfectly healthy.

Abdominal Organs. — These were examined in 41 cases. *Peyer's glands* were apparent and distinct in 24, and in 4 of them the solitary glands at the lower part of the ileum were distinctly visible. In 6 cases they were scarcely visible; in 11 cases they could not be distinctly recognised by the naked eye. In all the cases in which the eliptical patches were distinctly visible, except 2, they were of a blueish or grayish colour, dotted over with dark spots; in 4 only, were they distinctly elevated, in 2 very distinctly so, with some appearance of ulceration. The *mesenteric glands* were enlarged in 2 cases only. The *stomach* was also examined in 41 cases; in 10 only of them was it found diseased, and in different ways, as thickened, mamillated, in some cases and in a very trifling or doubtful degree in the rest. The *spleen*, of all the organs the in body was found not unfrequently in an anormal state, being generally larger than usual, soft, and in some cases almost diffluent. In 41 cases, the *kidneys* were affected with Bright's disease 6 times; and the *liver* more or less altered from its natural state in 5: these anormal changes in the liver were of ancient date.

The *heart* was affected with organic disease of old standing in 3 cases. In one case there was recent inflammation of the *larynx*. In all the cases, the *blood* appeared to be in a fluid state in the large veins, but generally smalland soft coagula were found in the right side of the heart.

Edin. Med. and Surg. Journal.

Chronic Hydrocephalus successfully treated by pressure. — This mode of treatment is strongly recommended by Mr. Barnard, Senior Surgeon to the Walcot Dispensary, who was led to adopt it from observing some adult heads of such a size as could have been caused by no other than hydrocephalus in infancy. In these cases, nature probably had effected a cure by a comparatively early union of the bones of the head, thereby forming a natural and most efficient bandage. Hence the obvious indication to imitate nature and apply gradual compression to the head. The mode of applying the pressure is the following: The head is to be shaved perfectly clean, and strips of adhesive plaster about three quarters of an inch wide, are then to be applied completely around the head from before backwards, so that the ends overlap each other two inches behind, covering the space from the eyebrows to where the hair commences, and as low down as the ears will permit: then apply cross straps from one side to the other over the crown of the head, likewise to the nape of the neck. In some cases the head was also kept covered with linen constantly wet with cold water.

Six cases are given, in all of which the beneficial effects of the treatment were strikingly marked, and its beneficial effects were the more clear because nothing else was resorted to, except to preserve the bowels, &c. in their proper condition. The following case will illustrate these effects more clearly than a general description can do.

J. W. a child ten months old, who according to the accounts received from his parents had been born perfectly healthy and remained so for a month, when it appeared to fall into a sickly and unhealthy state, as they supposed from dry nursing, as the mother was unable to suckle it. Two medical men, in succession, had been consulted without advantage, and the head I was told had been enlarging for some months. It now measured 21 inches in circumference: the fontanelles were quite open and distended, and the bones loose and moveable; the complexion sallow, face bloated, muscles relaxed and flabby; pupils dilated and insensible to light; strabismus and sometimes convulsions. She lay in a half comatose state, and appeared to be insensible to things passing around her; bowels regular, but excretions unhealthy. Mr. Barnard directed the head to be shaved, and then applied the adhesive plaster in the manner above described, omitting the application of cold water.

March 5th. In a week the general symptoms were improved: secretions from the bowels healthy and the squinting gone; head not decreased in size; plasters firm; had taken her food better.

March 16th. Has had no convulsions since the 2d; bowels still continue regular, with only one dose of castor oil; countenance much improved, and complexion clearer; begins to take notice of things passing around her.

April 10th. Plasters have begun to loosen; they were therefore removed and fresh ones applied. The head was found to have decreased half an inch; from this time, the health of the child regularly progressed, and every bad symptom had left her by the end of the month.

May 6th. The child has gained flesh, and the muscles become much firmer; appetite good, and the child has generally a healthy appearance. The plasters were again renewed, and the circumference found to have decreased an inch. They were again renewed in the beginning of June, and left off the following month, when the child appeared in perfect health, the head measuring 18½ inches.

Another case, was that of a child a year and a half old, which remained healthy until six months, when the head was first noticed to be enlarging. When Mr. B. saw it the case appeared almost desperate, the head being 22½ inches in circumference. Two months after the bandage had been first applied, the child appeared in every respect healthy; the head was still larger than natural, measuring rather more than 20 inches in circumference, but the bones were united and the head firm.

The third case, was that of a child 8 months old which was born with a large head. The bandages were applied, January 15th; the September following the child appeared restored to perfect health. The bones were united and firm in every part excepting a small portion of the anterior fontanelle. In this case, perhaps from its being congenital, the improvement was much more gradual, although in another case, occurring in a child 12 months old whose head had been increasing in size for four months only, the cure was not effected, until between seven and eight months.

Another case of chronic hydrocephalus is very fully detailed in the same very interesting number of the Journal before us by another author, that of a child five months old, whose head began to enlarge when about 7 weeks old after an attack of smallpox. This child was tapped no less than ten times and 153 ounces of water drawn off besides 64 ounces which were found after death. In this case a tight roller was applied round the head after each tapping and although the immediate effects of the operation seemed at first rather favourable, still the case terminated fatally about four months after the first tapping, and about thirteen months after the head began to enlarge. A curious fact in relation to the operation is, that it was followed in almost every instance by symptoms of acute inflammation of the brain which, however, soon subsided, and that after death dissection revealed the evidences of repeated arachnitis of the base of the brain indicated by layers of coagulable lymph of different ages, in this situation; while the parts punctured in the operation exhibited slight scars, but no other appearance of inflammatory action.

Lancet.

Case of Melanosis of the Skin. By DR. GILLKREST.

Maria Anglen, æt. 28 years, a native of St. Lucar, in the province of Cadiz, was born of healthy parents; her temperament is bilious; she was married at 19 years of age, and is the mother of three healthy children, the youngest 14 months old; she has lived for the last 2 years in a badly ventilated apartment. About the 22d of Oct., 1838, after a dinner of beef made into soup with a little ham, and cooked in an earthen vessel, which had been several times before used for the same purpose, she was attacked with vomiting, which continued for a considerable time afterwards; others of the family were affected in the same way; symptoms of gastritis and pulmonary inflammation supervened, for which she was salivated, leeched, and blistered; under this treatment, the irritability of the stomach was allayed, the cough finally ceased, and she was able to sit up about the beginning of January.

At this time, she observed a little swelling of the feet, accompanied by a pricking sensation, which annoyed her a good deal. The vomiting having returned without any known cause she was obliged again to take to her bed and to be leeched, &c. Dry cough, diarrhœa, and palpitations ensued. After a few days' treatment the cough and palpitations, yielded: but the other symptoms persisting, leeches were applied to the epigastrium. Her state was now in some respects ameliorated, the dejections which had lately been dark and streaked with blood having become natural; but the state of the feet mentioned had become worse and she now complained of pain and heat in them. The hands now also began to be affected in a similar way.

It was at this period that her physician perceived that Maria Anglen's skin had become darker, the change being very remarkable on the neck, trunk and nates; the skin of the face and extremities having preserved their natural colour. Under the use of seltzer water and a mixture containing the acetate of ammonia, temporary relief of the vomiting was obtained. Cerebral symptoms soon after occurred which were relieved by the application of leeches; and another blister to the epigastrium was followed by an almost total cessation of the vomiting. In the mean time, the pains in the hands and feet increased so as to be very distressing, and the colour of the skin in the parts mentioned became darker. The thighs and upper part of the arms were now of a dark colour, but in a much less degree. During this time the conjunctivæ preserved most perfectly their natural colour.

On the 16th of February, a consultation took place at which I was present. The pain in the feet and hands were very distressing, and disabled her from moving in her bed; she described the pain as extending from the feet along the back of the legs; much emaciated; conjunctivæ natural; pulse small, 140; tongue moist; appetite moderate; passing very bad nights from the pain in the legs; distressing cough and palpitations; relieved during the day. Urine carefully examined, presented nothing remarkable; dejections pretty natural; usually an evacuation two or three times a day.

On inspecting the surface, all were greatly astonished at the colour of the skin on the parts already mentioned; and were we not previously informed of the case, we would not have believed on seeing those parts only, that we had not a negress before us. This dark colour became gradually lighter down the thighs and arms; and with the exception of slight traces about the toes, did not exist on the feet or hands.

On examining the skin where the greatest intensity of colour existed, numerous granulations, ranging from the size of the section of a small pea to that of a pin's head were discovered; no traces of these being found on the legs or forearms.

On examining carefully the region of the liver nothing was to be seen, and considerable pressure caused no pain. A small quantity of blood drawn for the purpose of experiment, separated into serum and coagulum in the usual proportion, both being of the colour of ordinary blood. A small blister was applied to the side for the purpose of ascertaining whether there were any peculiarities in the raised cuticle or in the serum under it. The latter was as transparent as in ordinary cases; but the cuticle, with whatever of the cellular tissue might have been adherent to it, was rather dark, but not to the degree which might have been expected from its previous appearance; the subjacent surface presented nothing unusual.

Under a course of treatment (including a few mercurial frictions to the spine,) to which I am not disposed to attribute any effect further than, perhaps, soothing her occasionally, this woman has gradually got better; desquammation having proceeded during April and May, but until lately, not accompanied by corresponding relief from the pains in the hands and feet, the former during the greater part of the time having the fingers bent as in persons who have cramps, and the feet as in a person affected with paralysis; while there existed in all these parts a morbid sensibility which the slightest touch increased to torments.

On visiting Maria Anglen in June, 1839, the improvement in her condition is very remarkable; the desquammation of the original dark layer is almost complete, and a further desquammation of another *brown* layer, which had succeeded to it, is in many places in progress, so as to display the natural colour of the surface of those patches. The distressing pains in the extremities have nearly ceased, and she has the use of her hands once more. She has still, however, but very little power over her feet, in which there is also still an excess of sensibility. She takes nourishment freely, is cheerful, and the functions are regularly performed. —*Med. Gazette.*

Important discovery in Vaccination.—Mr. Ceely, surgeon of Aylesbury, has demonstrated the important fact, that the smallpox and cowpox have the same origin; the latter being smallpox communicated to the cow. Mr. Ceely inoculated cows with smallpox matter, the vesicle produced in the animal had every appearance of the vaccine pock. To ascertain the point, children were inoculated with matter taken from the cow thus artificially infected; the result was a *fine genuine vaccine vesicle.* To establish the fact satisfactorily, these children were submitted to smallpox inoculation, and found to be protected from the disease. Twenty-five successive inoculations have now been performed with this new virus which may truly be named "Variola Vaccina," and it continues to produce the most satisfactory vesicles; the matter has been employed at Bristol with perfect success. The importance of this discovery cannot be too highly appreciated. Smallpox often breaks out in countries where cowpox cannot be procured; now it is only necessary to inoculate a cow with smallpox and this virulent morbid poison, so fatal to human life, will be converted, by this useful animal, into a mild fluid capable of protecting all inoculated with it from that dreadful malady the smallpox.

[The above notice was communicated, in a letter from England, to one of the collaborators of the Journal. It will be recollected that some years ago Dr. Hibbard of this city, then Vaccine Physician to the New-York Dispensary, instituted a number of similar experiments on vaccination, all of which proved unsuccessful.]

Dislocation of the Os Brachii upon the Dorsum Scapulæ.—A case of this kind is related by Sir Astley Cooper, in which the dislocation was occasioned by mere muscular action, while the patient was suffering from epileptic convulsions. The patient was 52 years of age. The head of the os brachii was found upon the dorsum scapulæ just behind the glenoid cavity; it could easily be reduced, but it could not be retained in its place, and in passing out of the glenoid cavity it afforded a sensation of crepitus. The patient lived seven years after the accident, but never recovered the use of the limb. On *post-mortem* examination, the head of the os brachii was found resting on the posterior edge of the glenoid cavity, and on the inferior costa of the scapula. The tendon of the subscapularis had been torn off, and the internal part of the capsular ligament had been lacerated. The head of the os brachii and the outer edge of the glenoid cavity were in contact, one bone rubbing upon the other; and this accounted for the sensation of crepitus at the early period of the dislocation, as there was no fracture. The posterior edge of the glenoid cavity was slightly absorbed, so as to form a cup in which the head of the bone was received. The head of the bone and the articular cartilage, where they were in contact with the scapula, had also been slightly absorbed. The surface of the original glenoid cavity, instead of being smooth and cartilaginous, was rough and irregular, having elevations at some parts, and depressions at others. The impossibility of retaining the head of the bone in its place in this instance is explained by the rupture of the tendon of the subscapularis muscle, in consequence of which the bone was drawn back by the infraspinatus and teres minor.

Sir Astley Cooper also relates another case of dislocation on the dorsum scapulæ, which was reduced after twenty-three days. The manner of reducing it is described by Sir Astley in the following words. "I placed the patient on a chair, and bending his elbow at right angles, I raised his arm and carried it behind his neck, so as to bring the hand across the back of the neck to the opposite shoulder; then forcing the elbow back, and pressing upon the head of the bone, I pushed it under the inferior costa of the scapula, and it instantly returned into the glenoid cavity." — *Guy's Hospital Reports.*

Fractures of the Head and Neck of the Os Brachii. — Sir Astley Cooper states that these accidents are of three kinds.

"1st. Dislocations of the os humeri into the axilla, with fracture and detachment of the head of the bone, which is thrown on the inner side of the inferior costa of the scapula."

"2d. Fractures through the neck of the bone, at the tubercles; in which the head of the os humeri is broken off, but remains in the glenoid cavity. This fracture occurs at the epiphysis, or anatomical neck of the bone."

"3d. A fracture below the articulation, between it and the insertions of the pectoralis major, latissimus dorsi, teres major, coraco-brachialis, and deltoid muscles."

In the first of these accidents, there are the usual symptoms of dislocation into the axilla, but with less hollow below the acromion, because the broken end of the shaft of the os brachii occupies the glenoid cavity.

The head of the os brachii can be felt in the axilla, but it does not move with the arm, and the broken shaft of the bone can be felt moving under the acromion. There is sometimes a distinct crepitus, but more frequently a sub-crepitus from the broken shaft moving on the cartilage lining the glenoid cavity. The shaft of the bone is drawn forwards by the pectoralis and coraco-brachialis; it is easily pushed back into the glenoid cavity, but it requires some support to retain it there. The arm measured from the acromion to the elbow, is shorter than the other. There is usually much swelling and inflammation, as the accident does not occur without great violence. Sir Astley Cooper has had but three opportunities of verifying this accident by dissection. In each of them the broken end of the shaft of the os brachii was found in the glenoid cavity, where it had formed a new articulation.

The author gives the following directions as to the treatment.

"To keep the broken end of the shaft of the bone in the glenoid cavity, a pad must be put into the axilla to thrust it outwards; clavicular bandage must be used, and the arm be supported in a sling. But let the surgeon do what he will, the head of the bone will probably remain in the axilla, and the upper motions of the arm will be in a considerable degree lost."

The second class of these accidents consists of fracture at the junction of the head with the tubercles of the os brachii, without dislocation. It is very frequent in young people, before the epiphysis has become firmly united to the body of the bone; it occasionally happens in old persons, but it seldom occurs in middle age. It is sometimes complicated with fracture of the clavicle. The following are the signs of this accident.

"The head of the bone remains in the glenoid cavity of the scapula: so that the shoulder is not sunken as in dislocation.

"When the shoulder is examined, a projection of bone is perceived upon the point of the coracoid process; and when the elbow is raised and brought forwards, this projection is rendered particularly conspicuous.

"By drawing down the arm, the projection is removed; but it immediately re-appears upon giving up the extension, and the natural contour of the shoulder is lost.

"The motion of the shoulder is painful; and the child cannot raise the arm but with his other hand; the elbow is with difficulty removed from the side; and the arm is obliged to be supported."

Very little bony matter is thrown out from the head of the bone, but a large quantity from the shaft.

"The best mode of treating these accidents consists, in the young, in applying a splint on the fore and back part of the arm, binding it on by a roller; placing a pad in the axilla and using a clavicular bandage; supporting the hand, but not the elbow, in the sling; as, if the elbow be raised, the broken end of the bone projects forwards.

In old persons the injury is more severe; antiphlogistic treatment is at first required, after which the same treatment, as to bandages, may be pursued as in the young.

"Passive motion is to be employed as soon as the union is effected; which, in youth, is in a month; but it requires from two months to twenty weeks, in age."

In the third class of these accidents, or fracture through the surgical neck of the bone, there is great deformity, the upper fragment of the bone remaining in the glenoid cavity, while the lower fragment is drawn forward and upward, under the greater pectoral muscle.

"When the elbow is thrust upwards, the broken extremity of the bone projects on the inner side of the coracoid process of the scapula; and it sinks when the support of the elbow is removed.

"When the arm is rotated at the elbow, the broken end of the lower part of the bone is felt to roll.

"There is no marked depression under the acromion, or but little, if any, and then it happens from the deltoid muscle being dragged down.

"The motion of the shoulder is extremely painful; and the patient has one or more fingers affected, sometimes contracted, at others painful only; and this depends on one or other of the nerves of the axillary plexus being irritated by a part of the bone.

"The diagnostic signs of this accident are found in the head of the bone being in its cavity; in its being unaffected by the rotation of the elbow; in the point of the fractured neck being felt under the pectoral muscle; and in the surgeon being able to move the arm much more freely than in the other fractures of the neck of the bone.

The treatment of these fractures must be conducted on the same principles as that of the fractures of the second class; it is particularly important that the arm should hang so as to maintain constant extension by its weight.

Mr. Tyrrell found it advantageous in treating a fracture of this kind, to keep the arm supported at right angles with the trunk, by means of a rectangular splint, one part of which was applied to the side of the thorax, while the arm rested upon the other part. —*Ibid.*

To the Editors of the New-York Journal of Medicine and Surgery.

GENT., — At the urgent request of a friend, I forward for publication *my method of treating Scalds and Burns.* I do it the more cheerfully, from the desire to mitigate a portion of human suffering, and to prevent, occasionally, great deformity. When called in season I apply fine linen cloths imbued in either infusion of opium (pulv. opii ℈i to ʒi. aq. bullient Oj.) or spirits of turpentine, to be renewed when dry. These applications may be continued from 12 to 24 hours, according to the state of inflammation, or until the scalded surface has begun to suppurate ; I then remove these dressings and apply simple ointment, or Turner's cerate moderately warmed over a gentle heat, so that it can be spread over the scalded or burned parts with a small soft paint brush, or stiff feather. This constitutes the only dressing necessary, and *it must not be removed until the parts are healed.* If any portion of the ointment is accidentally removed, fill the vacancy instantly with fresh ointment. While sloughing and suppuration are going on, the matter forms openings and fissures in the ointment ; carefully remove the matter with a dry sponge, or a little lint, and fill up any vacancy created, as above directed. Hence it will be necessary to have some person in constant attendance in extensive burns and scalds, to heal them without a scar. The ointment can be more conveniently applied if a little fresh olive oil be added to it, melting and stirring them well together while cooling, and applying the ointment before it becomes hard. *In cold or warm weather, leave the parts burned without any other covering.* The temperature of the room should be attended to in very cold weather. If the ointment should accumulate to a considerable thickness during the process of healing, it is of no consequence whatever.

I wish to press the importance, *first,* of stripping the parts scalded or burned of all clothing and bed-covering, and leaving them off till the cure is perfected. *Second,* of excluding, by the ointment, as far as is practicable, atmospheric air from the whole ulcerated surface. This mode of treating ulcerated surfaces maintains a more uniform temperature, defends from irritation, and gives ample time for nature to replenish the wasted parts before healing, consequently no scab or scar takes place.

Yours, &c. WILLIAM FITCH.

Bridgeport, Sept., 1839.

To the Editors of the New York Journal of Medicine and Surgery.

GENTLEMEN : — I send you the particulars of an operation performed by myself some years ago, to remedy *an anchylosis of the hip joint.* It was similar in some respects, to the one performed by my friend Dr. Rhea Barton, of Philadelphia, in Nov. 1826, and was suggested by the account given by him in the North American Medical and Surgical Journal, for 1827.

I am desirous of placing it on record, that the Profession may be in possession of all the operations of the kind, with their results; and also, for the purpose of correcting the impression made by some inaccurate public notices of it. Velpeau in his work on Surgery speaks of it, on the authority of an American physician, as fatal; and I also see it alluded to in the English Cyclopedia of Practical Surgery as followed by the same result.

James Hall, an Irish labourer, aged 47 years, of healthy constitution, in October, 1829, suffered a severe injury by being caught between a vessel and the wharf.

By this accident, the left thigh was fractured about its middle; and the right hip joint severely contused. For the treatment of those injuries he was placed on his back, Boyer's apparatus applied to the left thigh, and the right flexed, rotated outwards and abducted. The apparatus being badly adjusted, sloughing took place in the left groin, and all dressings were removed. No extension was kept up from this time, and the os femoris united two inches shorter than the right. The inflammation of the hip joint proved very severe, and terminated in complete bony anchylosis.

He was admitted under my care into the New-York Hospital, November 10th, 1830. At this time, he could indeed walk, but with a painful effort, and the knees, in the act of progression, were separated two feet and a half. He was unable to support his family and was very desirous of having the deformity remedied. His general health was good.

In consultation with my colleagues Drs. Mott, Stevens, and Cheesman, I proposed to cut down on the os femoris; saw it off immediately above the less trochanter, and as this limb was two inches longer than the other, to remove as much as possible of the bone between the trochanter and the head, so as to make the two limbs, as nearly as I could, of the same length. This plan was assented to, and on the 24th of Nov., 1830, at 12 o'clock, the operation was performed in the following manner. An incision was made, six inches in length, in the course of the os femoris, beginning about an inch above the trochanter major. This was met about its middle by another from the front, three inches in length. The flaps were turned off, and the soft parts easily detached from the bone, so that in a short time, and with much less difficulty than I anticipated, my fingers were passed round the bone immediately above the trochanter minor. The division of the bone was attempted with the chain saw, but the instrument breaking, the section was completed with a saw recommended by Dr. Barton, (North American Medical and Surgical Jonrnal, for 1827, p. 292.) This being accomplished, the limb was readily placed parallel with its fellow. Another section was made, and a wedge shaped portion removed, the thickness of which at the outer part was about half an inch, and at the less trochanter, three quarters of an inch. The removing a portion of bone of this shape, I thought would enable me to keep the limb which had been greatly abducted, more readily in situ.

The wound was dressed with adhesive plaster and lint, and a bandage applied.

The patient was now removed to his ward and placed on a firm mattrass. The limb was kept in a proper position by a bandage to the feet.

Eight, P. M. Pulse 110. Temperature of skin rather higher than natural; pain in wound not very severe; complains of bandage being tight. It was cut, and an anodyne administered.

25th. Rested tolerably well; skin somewhat heated; wound swollen and hot, but pain not violent; pulse 114. To take spt. Mind. and apply warm laudanum and water to the wound.

26th. Slept only an hour and a half; skin cool; pulse 117. Sickened by spt. Mind. Pain in region of the stomach, and rejects his gruel and arrow root. Slight oozing of dark blood from the wound. Ordered fomentations to the epigastrium, lemonade as a drink, and to take at bedtime solut. morph. gtt. xxxv.

27th. Slept better; skin natural; pain of stomach removed; pulse 120. Is cheerful. Skin inflamed in the anterior part of the wound. Continue the opiate wash.

28th. 10, A. M. Slept soundly, and feels much refreshed. Pulse 103.

Eight, P. M. Pulse 98. Is perspiring freely. Inflammation of skin subsided; dressings removed; wound almost united.

29th. Slept well; pulse 92, full and soft. No evacuation from his bowels since the operation, and I was unwilling to disturb the bones by moving him. Common enema to be administered. To take chicken water. Wound rather flabby. To be dressed with Ung. Bals. Peru.

For some days he improved in every respect.

Dec. 5th. On passing the finger into the wound, the bones could readily be felt in a proper situation.

Dec. 10th. Passed a restless night. Bowels loose. Tongue dry and slightly brown; stomach rejects his drinks and food.

To take the effervescing draught, and have an injection of starch and laudanum.

This attack soon passed off, and in six weeks from the operation the wound was nearly healed. Passive motion was now commenced and kept up daily.

About the 1st of March the wound healed and he was supported on crutches. He remained in the Hospital until the beginning of May, 1831, when he left it of his own accord.

May, 1833. My patient paid me a visit, walking well, and assisted only by a cane. He assured me that he could walk well enough if the left thigh gave him as little inconvenience as the one on which I had operated. But the left knee was somewhat stiff, as was the thigh, in consequence of the scars produced by the sloughs in the groin.

He can rotate the right limb inward and outward; abduct it, and flex it nearly to a right angle. Thus far the success of the operation was perfect, and I intended to keep my eye upon him and examine the joint from time to time; but I never saw him afterward. I was the more anxious to follow up the case, because, after two or three years, Dr. Barton's patient lost the mobility of his joint.

The case is more extended than I supposed it would be; but I hope, gentlemen, you will be able to give it a place in your valuable Journal.

I remain, very respectfully,
Your obed't servant,
J. KEARNEY RODGERS.

New-York, Dec. 17*th*, 1839.

Our attention has lately been drawn to the subject of *homœopathy*, from its having lately led to several animated discussions in one of our Medical Societies. We are induced to believe that the following summary of its doctrines and of the objections that lie in the way of their adoption, may prove interesting to those who want the inclination to study the subject in detail.

The entire homœopathic doctrine is embraced under the three following propositions, viz:

1. That certain agents or medicines have the property of producing certain artificial diseases of a distinct and determinate character.

2. That diseases artificially produced, cause those spontaneous diseases, which are analogous to them in character to cease immediately, radically, and permanently.

3. That remedies are efficacious, when attenuated to an inconceivable degree, such as the decillionth dilution, and even the 1500th!

Now it seems to us, that the utter absurdity of these propositions will strike every one, and that to attempt their refutation by grave argument, is altogether unnecessary; still as some of our readers think differently, we beg to throw out the following suggestions.

1. In the first place, we deny that there is any proof whatever, that artificial diseases analogous to those of a spontaneous character, can be produced by homœopathic remedies, or by any agents of an artificial kind. Can any of these articles, produce smallpox, scarlet fever, measles, hooping cough, or typhus fever? Hahnemann's assertion, to this effect, cannot be admitted against universal experience.

2. We deny that the animal frame, is, of itself, more susceptible of the action of medicinal substances, than of the common causes of disease; a principle, which *is taken for granted* by the homœopathists, and on which their whole system rests: and we no less strenuously deny, that the susceptibility of the system to the action of remedies, *is increased by disease*, as they maintain; the contrary of which is known to be the fact, by every physician who has had the least experience in treating disease.

3. We deny that there is any satisfactory evidence, that any diseases whatever, have been cured by homœopathic treatment. All cases of apparent cures, are to be resolved into the recuperative operations of the organism, or the influence of the imagination; both of which are mistaken by those who reason on the *post hoc, ergo propter hoc* principle, for the effects of remedies.

4. We deny that any effects whatever, have been, or can be produced in health, by the administration of such homœopathic doses, as are now given in this city for the cure of disease; as we have fully tested them on ourselves, and others. Beginning with a single globule of Belladonna of the 3d dilution, we have increased the dose up to several thousands, (in the last experiment we swallowed more than a table spoonful of the granules,) and without experiencing the least effect.

5. To the objection, that the peculiarity of these remedies consists, in acting, not upon healthy individuals, but only upon those whose susceptibility has been increased by disease, and who possess, as it is said, a temporary idiosyncrasy for a specific irritant, we reply, that the larger proportion of Hahnemann's experiments on himself and others, were made with the small doses, and that those, recorded by Jahr in his Manual, which is now the standard treatise in this country, are stated by Dr. Hering, the translator, to have also been made with "the minute doses."

If these are to be set aside, the whole Homœopathic Materia Medica rests on assumptions, and not on facts. That they must be set aside, is evident, from what we have state above.

6. Homœopathy has been repeatedly subjected to the trial of facts, and the test of experience, and has in every instance failed. In Russia, a distinguished German homœopathist was invested by the Grand Duke Michael, with full powers to prove, if possible, by a comparison of facts, the superiority of the homœopathic over the ordinary modes of treatment; and accordingly, a certain number of patients in the Military Hospital were intrusted to his care. At the end of two months, he was not allowed to proceed; for it was found, that of 457 patients treated by the ordinary means in the same period, 364, or three-fourths, were cured, and none died; whereas, by the homœopathic method, tried on 128 patients, half only were cured, and five died. The experiment did not, however, end here. The Russian government caused a certain number of patients to be treated homœopathically in one hospital, while in another, an equal number were left to low diet, and appropriate regimen. The results in both instances were similar, and the Medical Council, appointed to superintend the experiment, made the following report, which we give entire, as the whole matter has been repeatedly mis-stated in the homœopathic Journals. "The Medical Council, after having attentively weighed the results of the experiments made according to the homœopathic method, and compared them with those made according to the principles of the *medicine expectante*, finds that they greatly resemble the latter, and are probably based only on the *vis medicatrix naturæ;* for the infinitely minute doses can produce no effect on the human body. The Medical Council is therefore of opinion, that the homœopathic practice should be prohibited in sanitory establishments dependent on Government, for the following reasons.

"1. Acute diseases require energetic means of treatment, which are not to be expected from homœopathy.

"2. The homœopathic treatment of external lesions and surgical diseases, is altogether out of the question.

"3. Some slight affections get well while under homœopathic treatment, but similar affections disappear without any medical treatment, by the adoption of an appropriate regimen, good air, and cleanliness."

In France, homœopathy has been subjected to as severe an ordeal as in Russia, and with a like result. M. Andral, treated 130 patients with medicines accurately prepared by a homœopathic chemist in Paris, observing all the precautions, as to regimen, &c., recommended by Hahnemann. Some of the cases of intermittents treated after this mode, recovered after a certain period, and probably would have done so, had no medicine been given; in other cases, no effect was produced, and the patients rapidly recovered on adopting the usual treatment. The same result attended the treatment of the other febrile diseases, and in chronic complaints, with the exception, that in some cases, the patients got worse under the homœopathic treatment. In some instances, very singular effects were produced by giving pills, composed of inert substances, such as starch, flour, and gum-arabic, as homœopathic remedies. In one instance, *aphonia*, of six weeks duration, was cured in a few hours by starch pills, given homœopathically! A girl, labouring under cough with hectic fever, was treated in the same manner. After each pill, the fever diminished, the cough was relieved, and she slept better; she suffered more when she did not take it, and always requested to have the "calming pill!"

The Prussian government also, a few years ago, authorized a public trial of homœopathy to be made in the largest hospital of Berlin, *La Charité*, by one of Hahnemann's disciples, recommended by him for that purpose. He selected twenty-five cases, out of several hundred inmates of that establishment, such as he considered most suitable for his experiments, and of these, *not one* was cured! Hahnemann attributed the result to the incompetence of the physician, and he despatched a second, a favourite pupil of his own, to Berlin. But he met with no better success, and was also dismissed. In short, the whole experiment proved a failure. The Austrian government, about the same time, instituted experiments with homœopathic remedies in the large hospital of Vienna, which were attended with equally unfortunate results. The same fate attended experiments made at Rome and Naples. All private trials of homœopathic treatment made by philosophic observers, with due caution, in this country, we believe, have also failed. At least no cases of cures have, as yet, come under our knowledge.

7. The doctrine of "*similia similibus curantur*" is in the highest degree absurd, and opposed to the most positive and best substantiated facts. It is equivalent to saying that a medicine which coincides in its operation, with the diseased action, or exasperates it, at the same time cures it! All those instances which are brought forward in support of this doctrine, can be more satisfactorily and rationally explained on other principles; such as that of substituting a new action subversive of the diseased one, and therefore of an *opposite* not *similar* character. Many agents act beneficially in the removal of disease, by their perturbating influence, producing a modification of the vital forces; others are specifically determined to certain tissues, as *sulphur* to the skin, *cantharides* to the

urinary organs, and *mercury* to the liver, thus causing functional derangement, and even structural change, to yield to the influence of healthy therapeutic excitement. It is in this way, that many agents which act specifically on certain organs and tissues, effect cures when given in moderate doses, by producing a physiological or healthy grade of action; while if given in still larger doses, diseased or pathological action may be set up in the same organs. This result has nothing to do with the *similia similibus curantur* doctrine, nor does it prove any such action; it only establishes the well known fact, that healthy action pushed beyond a certain point becomes diseased action, as bloody urine may be caused by an over-dose of a diuretic, which, in a small dose, would produce a healthy secretion. We have, however, never yet seen mercury produce syphilis, nor sulphur the itch!

8. According to the homœopathic doctrine, exactly *seven-eighths* of all chronic diseases, are caused by *psora*, or *itch*; and the remaining one-eighth by *sycosis*, or *wart-sickness*, and by *syphilis*; and the whole treatment of these diseases is founded on this assumption. Now it would be no more hypothetical, and indeed far better supported by facts, to say that seven-eighths of all chronic diseases were caused by marsh malaria, or even the *hydrophobic virus*; in either case, we might say "*de non apparentibus et de non existentibus eadem est ratio.*" We shall not stultify ourselves by undertaking to controvert any such assertion or doctrine.

9. According to the homœopathic school, all medicines are of equal strength, and all carried to the same degree of dilution. Jahr tells us that the decillionth of a grain of *flint*, or *charcoal*, or *cuttle-fish juice*, is of equal efficacy, with the same dose of arsenic or strychnine! and, moreover, no regard is to be paid to age, sex, constitution, or idiosyncrasy!

10. The homœopathic system dispenses with anatomy, physiology, and pathology, and takes cognizance only of symptoms. It regards the *nature* and *seat* of disease, as of no consequence whatever, but symptomathology as all in all. We may readily perceive how valuable such a system must prove as a guide in the treatment of disease, when the merest *tyro* in medicine knows, that often the same cause produces different symptoms, and the same symptoms arises from different causes! as we have heard it denied that homœopathy dispenses with pathology, we can only refer, in proof of our assertion, to standard homœopathic works, from which we beg to quote a few passages: "The sole inquiry of the physician," says Dr. Herring, "is after the symptoms, because the symptoms alone determine his choice of the remedy, and upon the ful-

ness or accuracy with which these are noted, rests the entire management of the cure. *All, therefore, depends* upon the correct examinations of the patient, and not upon any possible opinions concerning the *nature* and *essence* of the disease, nor upon learned views concerning its *concealed seat.*" Again, says Dr. Hering, "*Nothing indeed but the symptoms* are to be accepted as the guide to the treatment of the disease, because in them alone no error is possible." The entire "Organon" is to the same effect. It is, moreover, to be recollected that the homœopathic systems of materia medica in use are solely founded on symptoms, said to be produced by the remedies in health; and *that these* are the sole guide of the homœopathist in the treatment of disease!

11. The minuteness of the homœopathic doses, found in homœopathic works, precludes all belief in the results attributed to them, and is sufficient, opposed as it is to all known facts, to warrant a rejection of the whole system. Cases of the minute division of matter, as proved by chemical tests, are irrelevant and inconclusive, as arguments to support the doctrine; the question at issue, is, how small a quantity of a medicinal substance will effect the organism? Neither does the fact, that a very minute quantity of vaccine or variolous matter affect the system, prove any thing in favour of the efficacy of minute doses of vegetable or mineral substances; for the former are specific poisons, producing specific results, which is not true of the latter. Simpson, Rau, Hering, Count de Guidi, as well as the leading homœopathists of this city, speak of the decided effects of the *decillionth* dilution; and the lowest homœopathic dilution to be obtained here, of medicines prepared in Germany, is the *third*, which is very nearly in the proportion of one drop of the tincture to one barrel of alcohol, or one grain of the extract, to 400 weight of sugar. Simpson, the most judicious writer in homœopathy states that his favourite dilutions are the 3rd, 6th, 9th, 12th, and 15th, though he often uses the 30th! One drop of the tincture + 100 drops alcohol = 100 (1st. dil.) + 100 = 10,000 drops, or one pound (2d, dil.) + 100 = 1,000,000, 1 barrel, (3d dil.) × 100 = 100,000,000, 100 barrels (4th dil.) × 100 = 10,000,000,000, ten thousand barrels, (5th dil.) × 100 = 1,000,000,000,000, one million barrels, (6th dil.) × 100 = 100,000,000,000,000, one hundred million barrels, (7th dil.) × 100 = 100,000,000,000,000,000, one hundred million barrels, (8th dil.,) so that by the time we reach the 30th, it would form a mass of alcohol larger than the whole solar system! A drop of the tincture, diffused throughout the waters of the Atlantic, would form a stronger solution than the eighth; and the same throughout all the waters of the globe, would be more concentrated than the 9th! If we take sugar instead of alcohol, the 3d degree of "potence" would require

more pounds than a man could carry, and the 4th degree would freight a North River sloop; the 5th, a 74 gun ship, and the 6th, our whole navy! If it be said that homœopathic medicines are not often given in these doses, we reply, that such are the doses recommended in homœopathic writings, including the late Homœopathic Journal of Medicine, conducted by Drs. Gray and Hull of this city, and if these are not good authority, we know not where to seek it. All these writers speak as decidedly of the curative effects of the 30th dilution as they do of the 3d, or the 1st. Their whole materia medica rests upon the small doses!

12. Were the human system as susceptible to the action of medicines, as is claimed by the homœopathic school, it is very evident we could not withstand the influence of the ordinary causes and agents, to which we are constantly exposed, through the medium of food, drink, and the atmosphere; causes far more influential than all the homœopathic remedies ever prescribed. The organism is purposely adapted to resist and throw off the numerous noxious agents which assail it, and to overcome the ordinary attacks of the disease, without the aid of medicine; it is these recuperative effects constantly going on in disease, which are mistaken by the homœopathist for the effects of his remedies.

Finally we may state, not by way of argument, but of illustration, that notwithstanding the years that have now elapsed since the doctrines of homœopathy were published, not one distinguished member of the profession in any country has adopted them. This is not to be wondered at; for between these and medical science there is no such thing as a compromise; they stand in direct opposition to each other. If homœopathy be true, what is to become of the accumulated wisdom of ages! Where is the certainty of knowledge if the ablest minds after centuries of toil have not yet reached its threshhold? That the credulous should become converts to what is new is by no means strange; that the unprincipled should seize upon it as the stepping stone to gain popularity, is almost too common to excite contempt. The reflecting and honest mind, while it is fully alive to the uncertainties of medicine, still recognises it as a science whose foundations were laid centuries ago, to gain strength with the progress of time.

New-York Hospital. Dr. John Watson has been elected one of the Surgeons of the Institution.

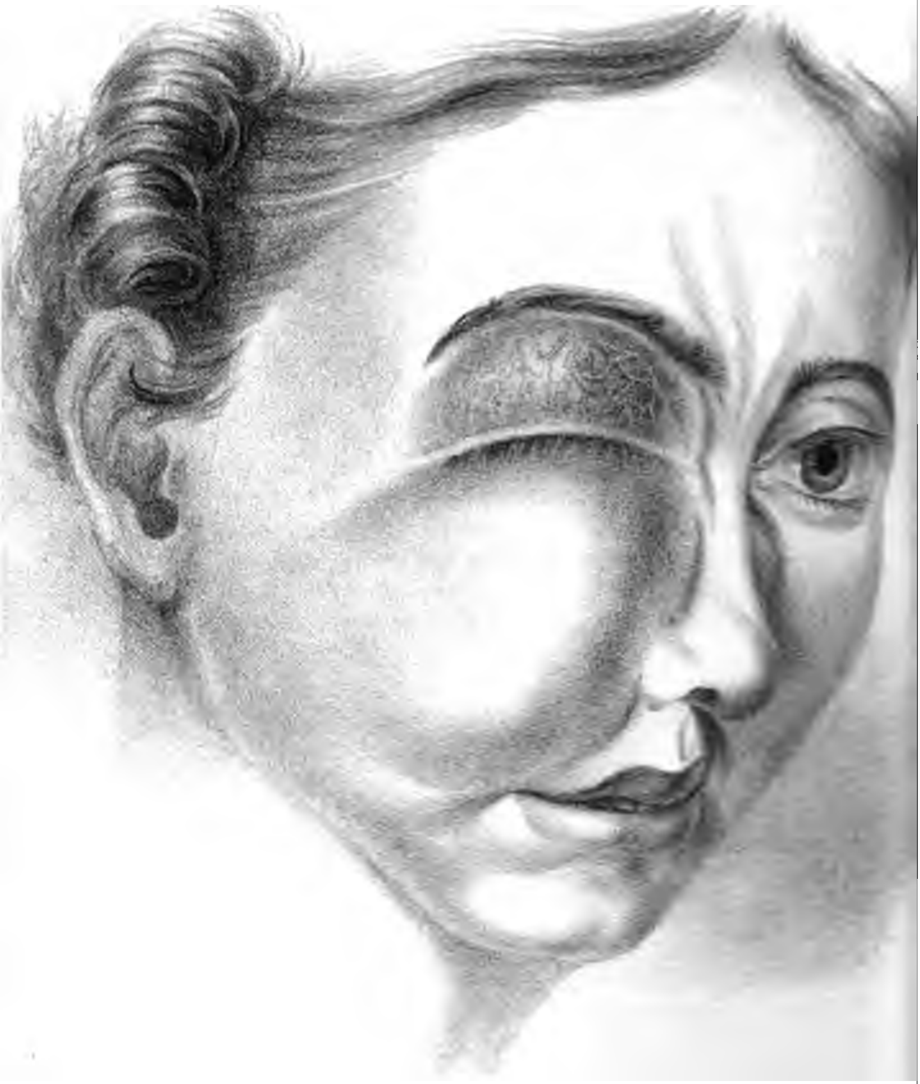
Museum of Pathological Anatomy.—Professor Watts and Dr. Parker, have purchased the Museum deposited at the College of Physicians and

Surgeons of this city. We are requested to state that the museum is open to the inspection of the profession. The collection, commenced by the late Dr. Post, is already very valuable, but it is highly desirable that, as it is now thrown open, its utility should be still further increased by the constitutions of those interested in this department of medical science. Those medical gentlemen who will deposit specimens shall have them carefully put up, and shall receive a certificate of deposit, so that they may be claimed and removed at any future time. Dr. J. K. Rodgers has already determined to deposit his interesting collection.

Medico-Chirurgical Society of the College. We take pleasure in announcing the existence of this society which was established last year for the benefit of students and junior practitioners. It holds weekly meetings for examinations; the reading of essays; the report of cases, *post-mortem* examinations, and the presentation of specimens of morbid anatomy.

Note.—Several communications which were sent us for the present number, have been omitted entirely; others, again, have been considerably abridged. Our apology for this, is the want of room, and, still more, of time. We should have gladly remedied this inconvenience by exceeding our limits still more than we have done, had not the time arrived for closing our labours so as to insure punctuality in their publication.

Pl. 1.



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THE

NEW-YORK QUARTERLY JOURNAL

OF

MEDICINE AND SURGERY.

FOR APRIL, 1840.

Art. I.—*A Case of Osteo-Sarcoma of the Upper Jaw, successfully treated by Extirpation of the whole of the Superior Maxillary and Malar Bones, and portions of the Æthmoid and Sphenoid Bones;* with accompanying Remarks. By Alexander H. Stevens, M. D., Consulting Surgeon of the New-York Hospital.

Mrs. W. a widow of sedentary habits, aged 41, applied to me in the early part of September, 1839, for relief from a tumour on the right side of her face, that had existed about seven months, and, of late, had been rapidly increasing.

The tumour appeared to involve the whole of the upper jaw of the right side: it had produced great deformity of the face, a bulging forward of the cheek from the centre of the zygomatic arch to the side of the nose, and a slight displacement of the nose towards the left side. It projected upwards into the orbit, and pressed against the globe of the eye, turning the eye from its proper axis, and obstructing vision by the permanent closure of the lids. It extended downwards through the palatine process of the maxillary bone into the mouth, forming a swelling there that occupied the whole space of the bony palate of the right side. It extended into the right nostril, obstructing the passage, destroying the sense of smell on this side, and forced the septum considerably beyond the median line towards the left side. Its progress posteriorly could not be accurately ascertained; but the finger, introduced through the mouth, could be hooked up behind it, where it appeared to bulge backwards into the posterior part of the fauces.

The tumour was in most parts hard and resisting; but, at some points, where it appeared to have cleared the parietes of the bone, it was somewhat softer; the integuments over it were not adherent, and were of their natural colour; the two last molar teeth had fallen out, and the gum, at this point, presented a foul ulcerated surface. There was a copious, thin, ichorous discharge from the right nostril. The patient's voice was altered; and she was suffering pain of a tearing and distending character. Her strength had been much impaired; and, being unable to rest in bed, she was obliged to pass her nights in an easy chair.

The disease, according to her own account, first began about the eye. In the month of March last, her right eye began to grow dim, and was observed to be somewhat turned from its proper axis; and her voice soon afterwards became affected, as if by some obstruction in the upper part of the right nostril. She applied, on account of her vision, to one of our public institutions, and was under treatment for a disease of the eye for several weeks before any signs of a tumour were discovered. The swelling, however, that gave rise to the disordered vision, was at length detected just below the orbit, and towards its outer edge. The growth of the tumour was for some time rather slow, but within the last two months, its progress had been more rapid. The patient had consulted several surgeons on account of it, some of whom had strongly recommended her not to submit to any operation, believing that the disease was beyond the reach of surgery. The patient, however, sensible of the danger of her disease, if left to itself, was anxious to submit, at all hazards, to any operation that was deemed advisable.

Operation.—On the 24th September, in presence of, and assisted by my friends, Drs. Hoffman, Buck, Post, Adams, and Watson, I removed the diseased mass in the following manner:

The patient being seated on her easy chair, with her head reclining against the back of the chair, I made, first, an incision extending from the posterior part of the zygomatic arch horizontally forward, towards the outer angle of the eye, and thence downwards to the right commissure of the mouth, passing just in front of the orifice of the parotid duct: secondly, an incision from just below the inner angle of the eye, along the right side of the nose, and so down through the upper lip to meet the termination of the first incision at the commissure of the mouth.

The right ala nasi was then separated from its attachment to the superior maxillary bone, and the flap included between the first two incisions, was dissected upwards to the edge of the orbit, and the lower lid with its conjunctiva, thus carefully detached from the upper part of the tumour nearly as far back as the middle of the orbit. The anterior half of the attachment of the masseter muscle to the zygoma was next divided.

One or two vessels were then secured, and the patient allowed to clear her throat of the blood which had run into it.

The right incisor tooth was then extracted, and a small triangular piece of the alveolar process was removed by means of a strong pair of scissors, such as are used by tin-smiths for cutting tin in a circular form, — the instrument having handles about eight inches long, a cutting edge about an inch and three-quarters long, and the blades curved flatwise. An incision was next made, with a scalpel, along the roof of the mouth from behind forwards to the point just mentioned, and the palatine process of the upper jaw next divided by means of a strong straight pair of scissors.

The attachments of the superior maxillary bone at the inner and lower side of the orbit were next separated by the curved scissors, one blade passing along the floor of the orbit, and the other into the nostril, thus separating the maxillary from its attachments with the æthmoid and nasal bones, taking away a small portion of each of these. The attachments of the malar bone at the outer wall of the orbit, rather more than half way between the floor and roof, were divided in a similar manner, and a small portion of the sphenoid bone separated from the wing of Ingrassias where it enters the orbit; and, finally, the zygoma was divided near the suture between the temporal and malar bones.

The tumour was now found to be so loose that it could easily be shaken with the fingers; but believing that the disease had not completely destroyed the palato-maxillary suture, a small incision was made, with a sharp chisel, in the natural situation of the suture. This, however, was afterwards found to be needless, the adhesion between the bones having been previously destroyed by the disease.

The tumour being now quite movable, was easily depressed, and the soft parts at the base of the orbit, being carefully dissected from it so as not to injure the eyeball, the whole morbid mass was seized in the fingers, and with a few slight strokes of the scalpel completely separated.

The operation gave rise to no severe hemorrhage; about eight ounces of blood were lost; the only vessel of magnitude requiring ligature, was the superior maxillary; and this was taken up after the tumour had been removed. The operative procedure occupied about 15 minutes; but much of this time was spent in securing unimportant vessels prior to the division of the bone, and in clearing the fauces of blood.

The patient bore the operation almost without a murmur, and her pulse and skin immediately afterwards gave not the least evidence of exhaustion; she was, indeed, unable to speak, but conveyed her ideas by means of slate and pencil; she was anxious to examine the tumour immediately after its removal, and sat up long enough afterwards to have one of the sketches taken that accompany this account.

The cavity left by the operation, was bounded superiorly by the eyeball, from which the inferior oblique muscle hung pendent, as represented in Plate II, the eye itself appearing wasted by the pressure which it had sustained, and now resting much below its natural level. Posteriorly, the cavity was bounded by the posterior orifice of the nostril, the ascending plate of the palatine bone, the pteragoid process of the sphenoid bone, and by the soft palate. Internally, it was bounded by the inner wall of the orbit, a portion of the æthmoid bone, and the septum narium. Externally, it exposed the masseter muscle, the temporal muscle, and a portion of the temporal and sphenoid bones. Inferiorly, it exposed the whole cavity of the mouth.

The parts removed, included the whole of the right upper maxillary and malar bones. The tumour was found to have altered

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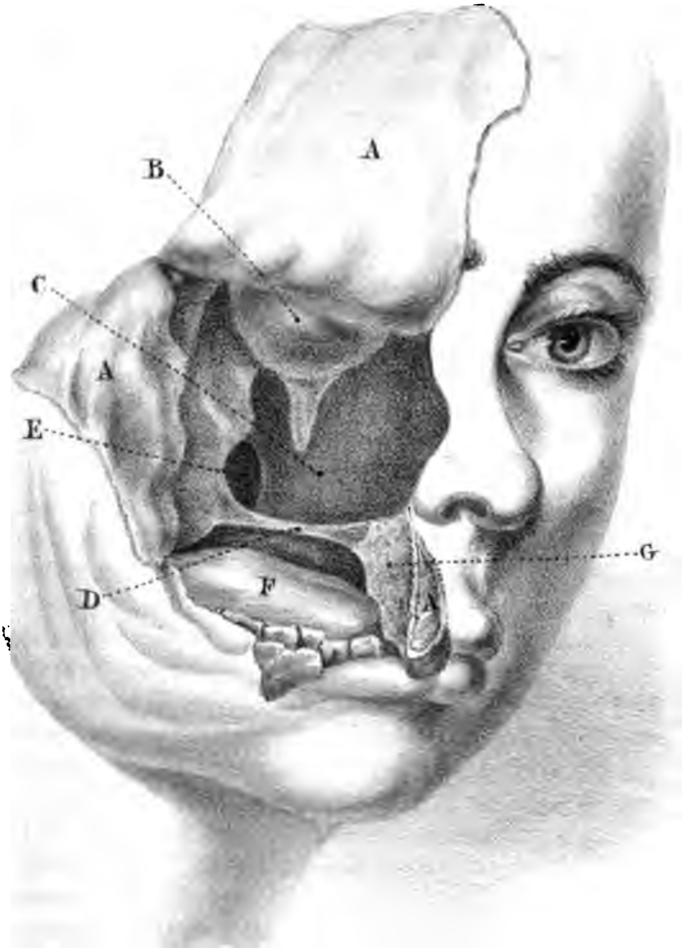

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Dr. Westmacott

the structure of both of these, but more particularly the maxillary bone, which had degenerated into a shapeless mass, scattered in broken fragments and irregular spiculæ, through the fleshy and softer portions of the tumour. The cavity of the antrum was obliterated, the greater part of the palatine process, of the orbital process, and inner wall of the bone, had been absorbed; and the whole tumour externally, internally, superiorly, and posteriorly, had an irregularly rounded and bosselated appearance, as if it had never been circumscribed by bone. No part of the tumour was left; but the whole morbid growth, with the bones involved in it, was removed in a solid mass.

About two hours after the operation, when all oozing from the wound had ceased, the incisions in the cheek were brought together very carefully by interrupted sutures and adhesive straps. The effect of respiration on the loose integuments of the cheek, after the edges of the wound had been brought together, was very remarkable; they collapsed at each inspiration, and puffed out again at each expiration, so that it was necessary to block up the posterior nostril with lint, and to place, also, some soft dossils of lint, in the cavity left by the tumour, in order to keep the cheek at rest, and allow the divided surfaces to unite by the adhesive process.

After the wound had been dressed, the patient was allowed some nourishment, which she was able to swallow without difficulty; and as soon as the lint was introduced into the cavity of the cheek, her articulation, though confused, was intelligible.

Not one untoward symptom followed the operation. The tampon of lint, on the fourth day, being saturated with offensive secretions, was removed, and a fresh one introduced. On the sixth day, all the sutures were removed, except one near the angle of the mouth. Subsequent to this date, the tampon was changed almost daily. While the lint remained in the cavity, her articulation was tolerably good, but as soon as this was removed she was unable to make herself understood.

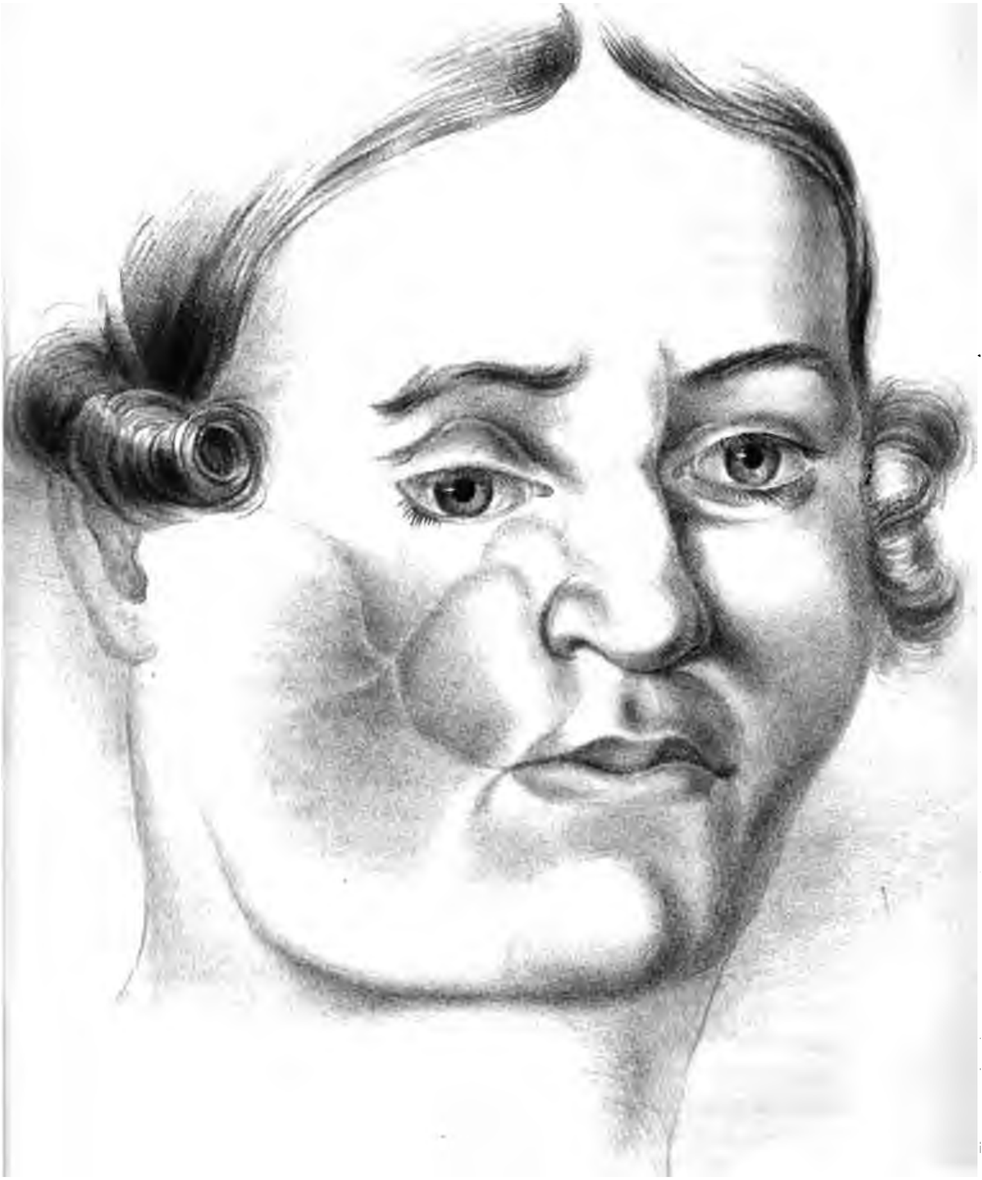
Oct. 1st. The external incision has entirely united by the adhesive process. On removing the dressings, the right eye is found to be perfect in its functions; but the eyeball still rests below its natural level, and the upper lid droops partly over it. She states that she has been able to get up twice a day ever since the operation, in order to have her bed made. The last suture, at the angle of the mouth, was removed.

Oct. 7th. The patient is sitting up, and speaking very distinctly; the right eye moves now in all directions, and is as useful as the left. She still continues the use of the tampon; the cavity in the cheek, however, is beginning to contract. Subsequent to this date, the patient began to resume her household duties, and in less than three weeks after the operation, she was walking about in her usual health. She continued the use of the tampon, gradually diminishing it as the cavity contracted, until she found the vacancy in the arch of the mouth so small, as not to interfere with her speech. For about two months past, she has discontinued it entirely; and the cavity at present, (Feb. 25th, 1840,) is scarcely large enough to admit the point of the thumb. The general health is perfect: there is no likelihood of any return of the disease. But in consequence of irregular contraction of the lower eyelid, she has recently had to submit to an operation for entropion. Her eye itself is perfect, and the deformity- in the lower lid, is less than might have been anticipated.

REMARKS.—The experience of modern surgery has sufficiently established the practicability, the safety, and expediency of the operation which we have now detailed. I cannot believe that any tumour of the face should hereafter, merely on account of its size, be considered beyond the reach of surgery. There are, doubtless, cases of malignant disease of the face, as of other parts, that surgery cannot remedy; but in tumours, like the one just described, where we have no sufficient reason to refer them to a constitutional carcinomatous taint, and where they continue to extend, without adhering to the parts with which they come in contact, and without changing these into their own nature, I see no reason why we should despair of their removal, even though we should have to follow them into the cavity of the cranium.

I can call to mind many cases where I have been a party in letting patients die a lingering and painful death, whom, I doubt not, might have been saved by an operation like the present; and it is with this conviction that I submit this case to the profession.

Pl. 3.



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Dr Westmacott

But, it may be asked, is the cure a permanent one? On this point I may say that the first patient from whom I removed the upper jaw, in the year 1823, about 16 years ago, is still alive and in perfect health: and known to some of the profession here, although I am not permitted to refer to him publicly by name. The disposition to return often arises from the improper mode of attacking the tumour by cutting into, instead of cutting round it. I have operated upon eight cases of tumours of the upper jaw, one only of which did not prove ultimately successful so far as I have been able to ascertain; and in that case the fungus extended into the sphenoidal cells, whither I did not follow it, as I should certainly do now in a similar case.

In concluding this account of the operation and its happy result, I cannot withold my testimony to the value of the assistance I received from Dr. Watson, not only during the operation, but in the dressing and subsequent management of the case.

Art. II. — *Cases of Chorea Sancti Viti, illustrating the efficacy of the Arsenias potassæ as a remedial agent. Reported by* David M. Reese, A.M., M.D. Professor of the Theory and Practice of Physic, &c. in the Albany Medical College.

In a former number of this journal, a paper appeared containing practical observations on the pathology and treatment of the disease vulgarly called St. Vitus's Dance. In conformity with the promise then given, a brief extract is here submitted from my memoranda.

Case I. — Mrs. C. æt. 31, of delicate constitution, but the mother of four healthy children, accompanied her husband to the city for the purpose of submitting to medical advice, by reason of chorea of two and a half years standing, and which had been hitherto untractable, although a variety of treatment had been adopted.

Her attacks were paroxysmal, occurring once or twice every 24 hours, and continuing violently for one to two hours, without however observing any degree of periodicity as to the hour of day or night. In the *interval* of these paroxysms, she could read, sew, or enjoy the society of her family and friends, without any morbid sensation, or exhibition. Suddenly, however, and without pain or premonition of any kind, her head would begin to rotate violently from right to left, and *vice versa*, one or both arms be whirled round in a circle with incredible rapidity, and her legs and feet would soon participate in the motion to a surprising extent; and so violent were these spasms of the lower extremities, that no force that could be applied could control or even diminish them. Meanwhile, though the action of the heart was accelerated as the effect of the rapid and long continued exertion, yet her mind was calm and cheerful, and the tongue being unaffected, she would converse cheerfully, smile at the terror of those who would look upon her for the first time, and manifest no concern or anxiety for herself. On the cessation of the spasms, she would rise from her seat, and exhibit but little evidence of fatigue, although nearly every muscle of her body had been in convulsive motion, sometimes for two hours, without any cessation.

Finding her digestive and uterine functions impaired somewhat, though not sufficiently in either respect to account for so violent disease, and the history of her case rendering it doubtful whether these functional disturbances were to be regarded as cause or effect, I contented myself with administering an emetic of ipecacuanha, followed by laxative treatment for a few days, until her catamenial period should arrive; when some symptoms of dysmenorrhœa being present, the hip bath was employed, with ℥ss. doses of elixir proprietatis, and a few drops of the vol. tinc. Guiaicum every few hours, with great relief. Up to this time the spasmodic paroxysms above described were daily recurring; and now, for the first time, they assumed accurate periodicity, returning regularly at 11 o'clock, A.M. but with undiminished duration and violence.

Having learned that during her former treatment, bark, quinine, carbonate, phosphate, and prussiate of iron, oxide of zinc, nitrate of silver, &c. had all been faithfully tried in vain, together with the contradictory agencies of V. S. blisters, brandy, opium, and the whole range of anti-spasmodics by different practitioners, and that she had been salivated twice without any effect being produced upon the disease, I could scarcely indulge a very favourable prognosis. Nevertheless I commenced the treatment by directing 10 drops of Fowler's solution to be given every six hours during the interval, a mild and nutritious diet, moderate exercise in the open air, and the cold shower bath to be repeated every morning. I then attempted to arrest each paroxysm by the tourniquet, by potent anti-spasmodics, &c. without any success however, for the first week; when I found that I could shorten its duration and moderate its violence by dashing a cup of cold water suddenly in her face; the paroxysm however still returned. I then increased the dose of the arsenical solution to 15 drops; and finding the stomach undisturbed, still farther to 20 drops three times a day for two weeks, when the return of the paroxysms was postponed, and soon forsaking the quotidian, they assumed the tertian type, and very speedily yielded to the treatment. The arsenic never produced any untoward symptom until the object being secured, a slight tumefaction of the face and head admonished me to suspend it, which I did by diminishing gradually its dose and repetition. She was enabled to return to her home in about six weeks after her arrival here, perfectly restored, and has never since suffered an attack, enjoying, as I learn, uninterrupted health.

Case II.—Mr. B.'s daughter, æt. 12, was attacked in the usual way with chorea, soon affecting the entire body, and involving the mental faculties. Treated the first few months by purgation, anti-spasmodics, and the preparations of iron, without effect. Her sister, three years younger, now contracted the disease, obviously by contact and imitation; but in her the symptoms were no less violent, both being in perpetual motion except during sleep, and neither being able to stand or walk. Their waking hours were usually spent upon the carpet, being unable to retain a seat upon a chair or sofa, and their countenances indicating idiocy, the tongue protruded, with slavering, and inability to speak intelligibly. In this deplorable state, after attending to the stomachic indications, the arsenical solution was used with both, commencing with six drops, gradually increasing to 10 or 12, three times a day. No other treatment was used except for the removal of occasional constipation, and in three weeks they were both so improved as to be able to take exercise, which, with liberal diet and the cold bath, resulted in convalescence. Both these children have since had a slight attack of the same disease after an interval of a year; and after the trial of other remedies, were restored by the same treatment as before; and for the last year they have been both in vigorous health.

Case III. — A maiden lady, of excellent character and habits, æt. 35, was sent to the city by her friends for medical treatment, after the disease had resisted remedies for 18 months. She had little motion so long as she remained either in a lying or sitting posture; but the moment she assumed an erect position, she would involuntarily turn round with the rapidity of a top, until she would fall down exhausted by the vertigo thus produced. At other times, she could keep herself on her feet for a time by running round swiftly in a small circle, and giving her hands and arms a rotary movement; the effect, however, was, in like manner, exhaustion.

I found her suffering from loss of appetite, nausea, flatulence, and other dyspeptic symptoms, including habitual constipation. Having relieved these sufferings by appropriate means, I placed her upon milk and vegetable diet, and gave her 10 drops of the arsenical solution night and morning, gradually increasing its dose and frequency as the stomach would endure it, the effect of which was soon apparent by ability to stand and walk; and within a month she left the city, and since has permanently convalesced. No other auxiliary treatment was used other than that named in the preceding cases.

Case IV. — Mrs. A. æt. 20, the mother of one child, by reason of mental suffering was attacked with chorea during lactation, by which she was reduced to a skeleton from emaciation, confined to her bed, unable to speak, and wholly idiotic, and had been in this state for two months. Her infant had to be weaned, and she showed no indication whatever of maternal feeling. I could learn but little of the treatment previous to my seeing her, which seemed to have been empirical. After mild laxative remedies, and a few days use of nutritious cordials, I directed small doses of the arsenic, cautiously increased to eight drops, which was all the stomach would bear. The symptoms sensibly yielded in a fortnight, and rapid convalescence followed, until her health seemed entirely rëestablished. This was early in 1839; soon after, she became a second time pregnant; and when seven months advanced, domestic trouble subjected her to a second visitation of chorea. I was called to see her in consequence of the violent spasmodic action accompanying it, only when she was on the eve of parturition, until the termination of which I relied upon musk and valerian. She was confined safely, in the midst of the spasms and peculiar muscular motion of this disease, and was immediately placed upon the arsenical treatment as before; and having recovered without any untoward symptom, she is now enjoying good health, and is nursing a healthy child. This case, with several others I have witnessed, confirms the opinion that chorea is not liable to affect the fœtus in utero, though in other respects there is reason to believe it to be hereditary. Nor is pregnancy any objection to the use of arsenic to the extent necessary for the cure of chorea, as I have proved in repeated instances, no adverse results following it either in the mother or child.

If these memoranda are worthy of preservation, and adapted to usefulness, they are at your service: and I may hereafter furnish you with the results of my experience in other affections of the nervous system. I will only add that the recent success of Dr. O'Shaughnessy, reported to the Medical Society of Calcutta, by the use of *narcotine* as an anti-periodic, renders it highly probable that this article may be advantageously substituted for arsenic in the treatment of chorea, as well as for quinine in the removal of intermittent fever. All these agents are doubtless analogous in their action upon the nervous tissue, and experience alone can decide their relative efficacy.

ART. III. — *Cases of Tetanus, with Remarks.* By DR. CLARK WRIGHT. (Read before the New-York Medical and Surgical Society, Sept. 15, 1838.)

IN the course of thirteen years, I have witnessed six cases of tetanus; the notes of which, with all their imperfections, I have extracted from my case-book.

The pathology of tetanus is still involved in much obscurity; and its fatality offers at once the opportunity and the incentive to further inquiry, with a view to a rational and successful treatment.

Post-mortem examination, in some cases shows the medulla spinalis to be soft and red, its membranes thickened and highly vascular. In other instances the ravages of inflammation are principally seen in the ganglionic nerves, with extensive disease in some of the organs to which they are distributed.—Thus, patches of inflammation, and even ulceration, are sometimes discovered in the mucous coat of the stomach and intestines. So intimate is the connection between the spinal and ganglionic system of nerves, that disease, I should think, cannot long affect the one without soon extending to the other. In a few instances, no morbid appearances have been discovered after death. When this happens, death is caused probably by the violence of the convulsions induced by intense nervous irritation, which would soon have terminated in inflammation; this, however, is merely speculation. One condition however, I believe prevails in all cases, to a greater or less extent. The motor nerves, from some cause or other, suffer an intense degree of excitement, whilst the sensorium remains undisturbed in its functions.

In the *treatment*, two prominent indications present themselves, viz. to allay irritation, and to subdue inflammation, or congestion. The means to be used must be adapted to the constitution of the patient, and the peculiar nature of the symptoms in each case. If the patient be strong, with a pulse hard and full, free depletion with the lancet, will not only aid in checking inflammation, and in producing general relaxation, but will also facilitate the operation of other remedies, and render them much more effective than they would otherwise be.

An emetic and cathartic, administered afterwards, will free the stomach and bowels from any irritating cause; and at the same time have a tendency to relax the muscles. After this, and sometimes before, my chief reliance would be upon opium, either alone or combined with calomel, according to circumstances. Local depletion and counter-irritants, also should not be neglected. Whatever is done, should be accomplished with the utmost promptitude; timid measures are worse than useless. Indeed I know of no disease in the treatment of which the rapid combination of judicious measures is so imperative; ordinary doses of medicine will have no effect—they should be very large, and repeated in quick succession.

In reviewing the treatment of the following cases, I think I can discover some errors in practice, which I should now avoid, and which you should all readily detect, and I hope profit by. Let me thus remind you of the importance of ready knowledge, in the treatment of this disease; for its sudden accession, violent continuance, and quick termination, afford very little time for reflection, when we are actually called upon to treat it.

Case I.—Traumatic Tetanus. Symptoms supervening about two weeks after the accident. Cure.—August 1st, 1825, while at Pitsfield, Mass., I attended with my brother, Dr. O. Wright of that place, the following case of traumatic tetanus:

J. S. a robust labouring man, æt. 30 years, was in the habit of getting intoxicated two or three times a year, the fit continuing a week or ten days together; at other times he was perfectly temperate. About two weeks previous, he wounded his foot with a nail. The wound was slight, and healed in a few days. The patient stated that he had been feverish and restless for two or three days past; the pain and cramp had commenced that morning in his foot, and had gradually extended up the leg to the epigastrium, followed by general and extremely violent convulsions, and opisthotonos. His sufferings were intense during the paroxysms; during the intervals he was pretty free from pain; pulse full, strong, and about 80 in a minute. He had taken an emetic and cathartic, on the day previous, which had freely evacuated his stomach and bowels. He was immediately bled to syncope, and ordered to take a half wine-glass of brandy, and two drachms of laudanum every two hours; an escharotic was applied to the wound, a blister to the back of the neck, and stimulating frictions along the spine.

Two o'clock, P. M. Some abatement in the paroxysms; deglutition less difficult, producing less agitation; patient inclined to sleep. The brandy and laudanum were discontinued, and an ounce of spirits of turpentine with mucilage, was administered.

Nine, P. M. The turpentine has operated freely, leaving pain in the rectum and tenesmus; the patient has had some sleep, he perspires freely, and the maxillary muscles are so much relaxed, that he can drink with little or no inconvenience. The following powder was prescribed for the night, to be repeated if necessary:

℞ Pulv. Doveri. grs. . . . . . . xv.
Hydr. Submur. grs. . . . . . x. mix.

He was also directed to take Liq. Ammon. Acet. every four hours.

Aug. 2nd. Patient had two spasms in the early part of the night, passed a dark stool this morning; the wound is beginning to suppurate.

Eight, P. M. Has had no return of spasm since last night at 10 o'clock; relishes his gruel, and appears to be well. The wound continues to suppurate freely.

In a few days he was able to return to his occupation, that of a farmer.

Case II.—Traumatic Tetanus. Symptoms supervening 10 days after the accident. Cure.—On the 15th Sept., 1826, L. A., aged 35, a Dispensary patient, received a slight wound on his foot just below the ankle. It healed readily, scarcely attracting any notice. On the 25th September, darting pains commenced in the foot and ankle, with, at first, slight spasms in the leg, extending gradually up the limb, and at length terminating in opisthotonos and trismus in the worst form. Any attempt to move or to drink was attended with a severe and general spasm; the bowels were constipated; the tongue coated; the pulse hard, full, 65 in a minute. Thirty ounces of blood were abstracted, inducing slight syncope and nausea. An emetic of sulph. zinc was now administered which operated freely, and was followed by considerable prostration and an abatement in the violence of the paroxysms. The following powder was then ordered:

℞ Pulv. Opii. grs. . . . . iv.
Hydr. Submur. grs. . . . . xv. mix.

with smaller doses of the same, if necessary, during the night.

I called at 9 o'clock the same evening and found that the spasms had returned as violent as ever. 20 ounces of blood were taken from the arm, and about eight ounces more by cupping along the spine, and the wound was cauterized. The patient to continue the calomel and opium as before directed.

Sept. 26th. The patient has slept four hours during the night, having been awakened several times, however, by a recurrence of the spasms. The gums are a little swollen and tender. I prescribed a large dose of sulph. zinc, which produced a free discharge of bile; and continued the use of calomel and opium with the addition of tart. antim. gr. ss. to each powder. Twelve hours afterwards profuse ptyalism ensued.

9 o'clock, P.M. The spasms are much diminished in violence and frequency; the patient complains chiefly of debility:

℞ Liq. Ammon. Acet. . . . . ℥ss.
Tinct. Opii. . . . . ʒj. mix.

to be taken every two hours until sleep is induced. Allowed wine in his gruel which he appears to relish.

Sept. 27th. The patient has enjoyed some refreshing sleep; suffers from extreme prostration and sore mouth; has had no alvine discharge since the 24th. Ordered an active cathartic, which procured several dark and offensive stools. The calomel and opiates to be discontinued.

Sept. 28th. Profuse salivation continues; the spasms have entirely disappeared, and the only danger now seems to arise from extreme prostration. The tongue is loaded with a brown fur.

Sept. 29th. The patient rested well last night; the salivation has abated; the sore on the foot suppurates freely. After a few days of careful nursing the use of tonics was commenced, and with nourishing food, he soon regained his usual health.

Case III.—Traumatic Tetanus. Symptoms supervening on the ninth day. Cure.—On the 12th June, 1828, J. C. aged 42, received a wound in the sole of his foot by a stone. No untoward symptom occurred until the 20th, when, after several hours exposure by standing at work in cold water, pain and stiffness commenced in the wounded foot, extending, as in the preceding cases, until the tetanic spasms soon became general and frequent. At each recurrence of the paroxysms, the pain in the back, passing through to the sternum, was most excruciating; the abdominal muscles were firmly retracted towards the spine, and the recti muscles, distinctly marked, felt like tightened cords; the maxillary muscles were rigid, the pulse hard, unyielding to pressure, and forty in a minute; the tongue loaded with a yellow fur; the bowels had been irregular for the past week. I bled the patient to syncope, after which he was cupped along each side of the spine; the original wound was laid open and cauterized; a large dose of ipecac, and sulph. zinc. was administered, which produced free emesis. The following powder was then ordered to be taken every two hours through the night, unless the patient should be asleep:

℞ Pulv. Opii. grs. . . . . iv.
Hydr. Submur. grs. . . . . viii.
Tart. Antim. gr. . . . . ss. mix.

June 21st. The patient has had intervals of disturbed sleep during the latter part of the night; the spasms are neither so frequent nor so violent as they were yesterday.

11 o'clock, A. M. Pulse still hard; paroxysms on the increase. Blood was again abstracted until faintness was produced, and an emetico-cathartic administered; the fluid vomited was green and yellow; the stools were black and slimy; the violence of the spasms now abated.

9 o'clock, P. M. No change has taken place except a constant nausea; the calomel and opium to be repeated as above, and blisters to be applied to the ankles.

June 22d. The patient had one severe spasm during the night, after which he enjoyed some refreshing sleep; the gums are tender; the pulse soft, and sixty in a minute; has had but one slight spasm this morning; the bowels are relaxed; tongue becoming clean; patient exhausted and unable to help himself. The calomel and opium were discontinued, and grs. x. of Carb. Ammon. ordered every three hours, with intermediate doses of liq. ammon. acet. and laudanum.

June 23d. Has had no return of the paroxysms; begins to relish light food; but still seems to be sinking from pure debility. The above medicines were continued for two days; afterwards the sulph. quinine was substituted. In two weeks the health and strength of the patient were re-established.

Case IV.— Traumatic Tetanus. Symptoms Supervening on the 9th day. Death in 30 hours. On the 9th July, A. P. an active young man, aged 21 years, received a puncture in the ball of his foot by a large tack.

On the 17th he was seized with tetanus in its most aggravated form; the pulse was full, hard, and frequent; the tongue was covered with a white and slimy coat; the mind continuing clear and calm in the interval of the paroxysms. The patient was immediately bled to syncope; having a short time previously taken an active emetic, which had not operated. Stimulating injections were then administered with a view to rouse the stomach, but without avail. Large doses of calomel and opium, and laudanum in drachm doses were given without the least effect. Leeches and afterwards blisters were applied to the spine, and mustard to the epigastrium.

The treatment was continued with the utmost steadiness and attention during the day and the following night, but overpowered by the violence of the spasms, the patient expired 30 hours after the attack.

Case V.—Idiopathic Tetanus, occurring after an attack of Remittent Fever. Cure.—The following is a case of idiopathic tetanus.

L. E., aged thirty years, had recently recovered from an attack of remittent fever. On the 1st of May, 1830, while yet in a debilitated state, she imprudently exposed herself to a current of air at the window; soon after which decided symptoms of tetanus rapidly supervened. As the disease progressed, each paroxysm seemed to involve the whole muscular system in one violent spasm; the jaws were permanently fixed and nearly closed; deglutition became extremely difficult, and was always attended with a spasm; the abdominal muscles were hard, being firmly and permacarbonate of ammonia—but all without avail; not the least impression on the disease was produced by the treatment. The spasms at length became almost unremitting, until the vital powers were exhausted. The patient died at 8 o'clock next morning, about twenty-four hours from the commencement of the disease.

REMARKS.—In all the preceding cases, with the exception of the single case of idiopathic tetanus, slight rigidity and pain commenced at the seat of the original injury, and extended gradually to the spine, to the ensiform cartilage, the maxillary muscles, &c. Hence it may be inferred, that irritation beginning in a wounded branch of nerve, had extended by degrees to its source, the medulla spinalis; from which it radiated in different directions. The medulla spinalis sending off branches through every lateral aperture in the spine, to supply the muscles of the extremities, the back, the chest, and the ganglionic system—the upper extremity of which, by uniting with the maxillary branches of the fifth pair, supplies in part the maxillary muscles—this intimate connection, by their anastomosing branches, affords a connecting link for the propagation of inflammatory action, when it has once begun, even in a distant branch. The indication in the majority of cases is decidedly active antiphlogistic, combined with sedative treatment. The whole vital energy seems to be exerted upon the motor nerves of the voluntary muscles; the stomach and bowels are generally torpid; their secretory functions, as those of the liver and kidneys, are mostly suspended. As soon as the irritability of the nerves, and the spastic condition of the muscles are subdued, these secretions will invariably return to their healthy condition, without the aid of specific remedies, and never before, even if these are employed. Therefore, it would seem to be worse than useless to oppress the stomach with a redundancy of drugs, further than to produce an evacuation of the primæ viæ.

It will be perceived, that I have generally combined calomel with opium: one object of this course has been to counteract the constipating effect of the latter, by its cathartic powers; another, to produce its diffusible and specific action. Having been used conjointly with other treatment, it is difficult to say precisely, what curative influence it may have exerted. I cannot conceive of its doing any harm, and it may do good; therefore, I should generally combine it with the opium. In cases where the primæ viæ are insensible to the influence of medicine, (as is sometimes the case) it may be introduced into the system by friction, combined with camphor and opium. To show that mercury once enjoyed some celebrity in the cure of tetanus, and is not exactly a modern notion, I will extract from the "Retrospective Review of the Periodical Press in Great Britain," the following Report, dated in the year 1755.

"*Tetanus.*—Dr. Donald Monro, then physician to St. George's Hospital, communicates a paper on the use of mercury in tetanus, in which he gives the practice of a gentleman in Jamaica, who in the latter years of his life, saved 12 cases in succession, by placing his patients in a very warm room, and then rubbing in large quantities of mercurial ointment over the limbs and body, till ptyalism was raised. This, with large doses of opium, was the only means he used, and by which he was so successful."

Dr. A. Monro of Edinburgh, after reading this account, tried the same plan in a case of traumatic tetanus, and was also successful. I question, however, if his success would have been as great had he omitted to give "*large doses of opium.*"

Art. IV.—*Cases of Variola, with Remarks.* By Charles R. King, M. D. (Read before the New-York Medical and Surgical Society.)

The horror and disgust so naturally excited by the sight of a case of variola, would, it might be supposed, have led to the full investigation of every particular that could in any way tend to alleviate the sufferings of its victims. Still, many of the phenomena of its history have not been so thoroughly studied as to preclude the necessity of additional observations; and it is therefore hoped that the following cases, collected in the hospital wards in Paris, under the care of M. M. Louis and Bouillaud, may be found interesting, and may direct attention to certain pathological conditions of extreme importance; but which have been, hitherto, either entirely unobserved, or at least passed by without sufficient scrutiny. A remark made by M. Louis at the bedside of one of the patients whose history is herein recorded, that *fifteen-twentieths* of all who die of variola, perish from asphyxia consequent upon affections of the larynx and air passages generally, first directed my notice to this important fact; and the cases about to be presented will be found fully to sustain it. It may be here remarked, that these cases are not selected for the purpose of supporting a particular doctrine; but are the only ones which occurred in these wards during the period of observation, and were carefully collected day by day at the bedside, from the moment of the patient's entrance into the hospital, and of course, without any possibility of forming any conclusion as to the results they would offer.

Case I.—Eruption within 48 hours; hoarseness; pain in larynx; intelligence good. Death on 13th day, with symptoms of suffocation. Inflammation of larynx and trachea; lower lobe of left lung with pneumonia in 2d stage.—Hospital La Pitié. Entered, Jan. 22d, 1835, a young man, aged 22, of moderately strong constitution. He had resided in Paris two years, enjoying good health; was never vaccinated, never had variola, nor as far as he knew, had he been exposed to its contagion. Without previous indisposition, and without a chill, he was attacked on the 19th inst. with pain in the head and loins, anorexia, nausea, slight diarrhœa, thirst and fever. He continued working until the evening of the 20th, when he took some warm sugared wine and went to bed; but without relief. On the morning of the 21st, the symptoms were much the same, but in addition he observed upon his forehead and breast a number of small red elevations, some acuminate, others flat on the top, some distinct, and others confluent. In the evening he entered the Hospital.

Jan. 22d. Expression good; mind clear; no evidence of prostration. Pains in head and loins. Anorexia and thirst. Some pain in throat and difficulty in deglutition; velum pendulum palati dry, red and swollen, with several small red eminences upon it; amygdalæ red and enlarged; a pustule on one of them. No pain at epigastrium, no colic, although diarrhœa continues. Pulse accelerated; skin hot and dry. Eruption extended over his face and breast to the extremities; more evidently that of variola. *Fifteen leeches to neck; rest; absolute diet; sweetened solution of tartaric acid for drink.*

Jan. 24th. Throat easier after leeching; more pain to-day referred to the larynx; amygdalæ and fauces red and swollen, with many pustules; deglutition easier. Pulse 80; little heat of skin. Eruption more extended than on 22d; face more injected, not swollen; no stool yesterday or to-day. *Continue as above, except leeches; cauterize the pharynx.*

Jan. 27th. After cauterization pain in throat less, though still some; was cauterized again yesterday; suffers much to-day from condition of throat and mouth; unable to open his mouth wide enough for inspection; tongue red, swollen, and covered with unbroken pustules; deglutition easy, voice hoarse. Face swollen; no erysipelatous blush between the pustules, which are confluent in spots, as they are on other parts of the body; they are larger and beginning to fill with a yellowish liquid. Those on back and thighs less advanced, but painful and annoying when lying down. Heat of skin less than yesterday; pulse 108, regular; slept well last night, no delirium: bowels rather costive. *Continue as above.*

Jan. 28th. Much pain in throat; hoarseness and expectoration of a viscid greenish mucus; pustules on tongue broken; face and eyelids less swollen; pustules numerous on these last; generally confluent on the face with occasional red intervals, forming crusts at the lower part; on arms and legs pustules large and nearly full; on hips and thighs collected in spots, and many confluent. Pulse 107, large, full, irregular; appetite better. *Continue as above; two weak soups.*

Jan. 29th. Condition alarming; mind clear; voice greatly changed; fears to speak because of the pain it occasions; tongue violet coloured, cracked and dry; cough and viscid expectoration. Face more swollen, eyelids closed, lips very thick; hands swollen; pustules large, flattened, and drying up rapidly without scabbing; on the extremities fuller than on the face. Much heat. Pulse 128. One stool. *Continue as above.*

The eruption gradually dried up, leaving large, flabby, and wrinkled sacs; his voice gradually became extinct, respiration difficult, pain in throat greater, until the morning of the 31st, when he died in all the agonies of suffocation.

Post-mortem examination 24 hours after death.

Externally. — The skin nearly covered with large, whitish, flabby, and wrinkled pustules; converted into crusts upon the face and neck.

Cranium. — The brain natural in colour and consistence; a slight sub-arachnoidean infiltration.

Neck. — Pharynx natural, without ulcerations; amygdalæ enlarged and red, as was the mouth generally; œsophagus healthy, and covered with its epithelium; mucous membrane of the epiglottis thickened and red; in the larynx and upon the much thickened ligaments, were remains of false membranes, soft and easily torn; mucous membrane softened; no ulcerations in it, or in the trachea, which was polished, granulated, and intensely red.

Chest. — The left lung adhered to the pleura costalis by false membranes; the right partly adherent; much heavier than the other, and having its lower lobe in a state of red hepatization.

Abdomen. — Stomach rather large; covered internally by thick viscid and adherent mucus, beneath which the mucous membrane was softened and mamillated. The small intestines were rose-coloured, firm in consistence, presenting some slightly developed follicles; these were also met with in the large intestines, which were in other respects healthy. The liver rather less firm than usual. The spleen was large, as were also the kidneys; one of these contained a small abscess; bladder and urethra natural.

This patient experienced about the fifth day of an attack of variola, much pain in the region of the larynx, succeeding pain in the fauces, and difficulty of deglutition, which were clearly accounted for by the inflamed condition of those parts. To relieve the larynx, which was evidently becoming affected, cauterization of the pharynx was twice resorted to; the first time with partial relief, but afterwards without effect, unless that of aggravating the symptoms by which the alteration in the larynx now betrayed itself. The pain was increased, the voice from being slightly rough, became hoarse, and articulation so painful as to forbid the attempt to speak; respiration was embarrassed; cough and expectoration of tough mucus were excited, and the patient finally died, (his mind remaining clear to the last,) in all the agonies of suffocation. From the eighth day, when the condition of the air passages became alarming, absorbing as it were all the energies of the system, the eruption, which had commenced filling, began visibly to decline until the day of his death, when all the matter seemed to be reabsorbed, the pustules remaining white and flabby. Upon examination after death, the redness and thickening of the epiglottis, the soft membranes covering the softened mucous membrane of the larynx, the thickened vocal ligaments, and the inflamed condition of the trachea, fully accounted for the symptoms observed during life, and were the only lesions of sufficient importance to have caused death. The hepatization of the lower lobe of the right lung was slight, and the softened and mamillated condition of the stomach is so often observed without any symptom to betray its existence, that it can only be regarded as aggravating the attack, without, however, materially affecting the result.

About three months before this attack, he had suffered from a venereal affection of the throat, which may in part account for the susceptibility manifested by the organs there situated. Still it is hardly to be supposed that this was the sole cause, for this liability to the affection of the larynx, &c. has been met with in every case of variola that I have seen.

It has been recommended in laryngitis and croup, to cauterise the pharynx in order to relieve the larynx from the weight of disease under which it is labouring. As a similar state of things existed in this case, it was thought advisable to resort to the operation in it, and with the same view. Partial success was at first apparently the result; but, upon repetition, a probable aggravation of the symptoms was produced.

Some nausea was observed before his entrance in the hospital; none was afterwards noticed, nor was there vomiting at any time. These symptoms are almost universally recorded by authors as always ushering in an attack of variola. Louis denies this as being the case with adults. It would appear that it is more rare with them than is generally supposed, though it certainly occasionally occurs. The diarrhœa, observed during the first days of the attack, was without colic or pain in the abdomen; it was arrested without any active treatment, and was probably unconnected with any inflammation of the bowels; a conclusion warranted by the appearances after death, the intestines being perfectly natural, with the exception of a slight enlargement of some of the mucous follicles. This symptom is occasionally observed at the commencement of an attack of variola, but by no means so generally as a constipated state of the bowels.

Case II.—Eruption within 48 *hours; pain in larynx, hoarseness; agitation and somnolence alternating during last days; large subcuticular purulent collections; rejection of drinks through the nose with cough. Death on the eleventh day. Vessels of Meninges congested; slight subarachnoid infiltration. Epiglottis ulcerated; larynx and trachea inflamed. Ulceration of the mucous membrane of the stomach.* —Hospital La Pitié, Feb. 6th, 1835.—A boy aged 17, a shoemaker by trade, with light hair and eyes, and of good constitution, entered the wards last evening. He had lived in Paris five years; comfortably lodged, and well nourished, and always enjoyed good health. On the morning of the 4th inst., without any previous indisposition, and without previous chill, he was attacked with severe pain in the head, loins and extremities, with a sense of lassitude, heat of the skin, anorexia, thirst, pain beneath the ensiform cartilage without nausea or vomiting, weakness and costiveness. In the afternoon he was obliged to discontinue working, went to bed without taking any thing but some ptisan, and remained there until the evening of the 5th, when he was brought to the hospital, being unable to walk. There is no mention made whether he was vaccinated, or whether he had been exposed to the contagion of variola.

Feb. 6th. Intelligence good, memory accurate; very weak; no dizziness, nor dimness of sight; movements easy. Upon his face a number of small red papules, but without elevation of the cuticle, except in a few; very numerous and pale red on the forehead, more on the right than on the left side of the face; others on the chest, abdomen and extremities, very discrete, especially on the thighs; some flat and others acuminate. He has felt no pricking of the skin, or in the throat; no difficulty of deglutition; tongue free from pustules; some on the velum pendulum palati and base of the uvula, but without swelling or much redness; pharynx natural; no thirst; anorexia; no nausea or vomiting. Headache and weeping of the eyes. A convulsive movement at epigastrium with pain, having the appearance of hiccough, but without the convulsive movement of the chest. Breath rather short, and quickly drawn when he speaks, probably because of above movement; no cough of moment; no pain in chest or throat. On percussion, chest sonorous anteriorly; less so over precordial region. The respiration pure and equal, except a little less strong over the heart. Pulsation and sounds of the heart normal; pulse 88; no heat of skin; abdomen somewhat tumid and sonorous about umbilicus; no stool since the 3d; nothing unusual in the hypochondria. *Infusion of borage for drink; rest; absolute diet; emollient enema.*

Feb. 7th. Convulsive movement has disappeared; considerable fever; pulse accelerated; skin warm; face red; pustules more developed, some flat others acuminate; more numerous on the body, some presenting a central depression; the cuticle more elevated than yesterday; pustules on the velum palati more numerous and large; none on the pharynx or tongue, which is greenish in middle and red at edges; no pain in the throat; some cough; respiration pure. *Continue as above; emollient gargle.*

Feb. 8th. Some return of the convulsive movement, and pain in the epigastrium; headache; skin warmer; more pustules on the face, more developed, as are those on body and limbs; these generally discrete. Some pain in throat since yesterday noon with increased cough; respiration pure; tongue whitish in middle; edges and tip red; pulse 76, rather full; three stools. *Continue as above.*

Feb. 9th. Face much swollen, and red between the pustules, particularly about the ears and eyelids; pustules on face fuller, flat and more confluent; they nearly cover the ears, where they are white and flat; these on the body, &c. are numerous and white, reposing on a livid red areola; tongue as yesterday, except that a pustule is seen on each side of it; some difficulty in deglutition, and much pain in throat, particularly about the larynx; pain there on pressure; discharges much saliva; respiration easy; pulse 92, rather full; heat of skin somewhat elevated. *Continue as above; four leeches to each side of neck.*

Feb. 10th. Face tranquil, much swollen; eyelids less so; pustules generally larger, otherwise as yesterday; generally of a dead white colour seated on a livid red areola; heat less; leeches caused free flow of blood. Still some pain in larynx; voice a little altered; pustules on the velum palati almost confluent, and still unbroken; tongue greenish in middle, red at edges and tip; more pustules under it; no nausea, no stool; pulse last evening 97, to-day 105, regular; sounds at the region of the heart natural. *Continue, except leeches.*

Feb. 11th. Intelligence good; answers questions correctly; rather somnolent yesterday; headache still; throat very painful, voice very hoarse; face swollen; lips so tense as to prevent opening the mouth wide; tongue slightly protruded, is moist, covered above with a rather thick yellowish fur, and presents white spots underneath; pustules on face confluent, and shrivelled, particularly on the forehead, where they have the appearance of an unbroken white sheet, with some few depressions; at the root of the nose are some pustules of a blackish colour. Wherever the skin can be seen, it is of a livid red, as are the eyelids, which are scarcely swollen; pustules on other parts better filled, with central depressions, pale, and reposing on a livid red areola; pulse accelerated; no stool. *One pint of weak tea; simple oxymel diluted; gargle.*

Feb. 12th. Answers correctly, though voice very hoarse; much pain in throat, and in swallowing; tongue less moist, covered with a thick, nearly dry, yellowish crust; heat little elevated; head and neck greatly swollen, and of a somewhat livid red between the pustules, which nearly cover these parts; around the nose and lips beginning to fill with purulent matter, some hardening into scabs; pustules rather shrivelled on chest, elsewhere as before. A number of purulent collections have formed over the body and limbs immediately under the cuticle. Respiration 24, rather high; heart beats tumultuously, so as to cause a movement of the whole body; pulsations of carotids very evident to the eye; pulse 102, rather full. *Continue as above.*

Feb. 13th. In a state of somnolence yesterday and to-day, though intelligence good; much agitation last night; pain in throat continues; asks for drinks, which he swallows pretty well, though he frequently rejects them through the nose in consequence of a fit of coughing occasioned by the attempt to swallow them. Lips and face generally much swollen; tongue as before; pustules on the face pale and flattened, but scabbing; on the neck they are fuller, and filled with a sero-purulent fluid; leech bites are of a purple colour like petechiæ; pustules elsewhere as yesterday; respiration 27, rather high; pulse rather large, 102, regular. *Continue; sinapisms to thighs.*

He passed a very restless night, and died at about half past eight on the morning of the 14th, without much suffering, but with a rattling in his throat during several hours.

Post-mortem examination, 24 hours after death.—Considerable emaciation; cadaveric stiffness marked; some blue spots on abdomen; reddish scabs upon the face, pustules elsewhere shrivelled; skin pale around them, and of a livid colour on the right side of neck and chest, and right shoulder and arm; the muscles of good colour and consistence.

Cranium.—Vessels of the dura mater filled with blood; much dark blood in longitudinal sinus; some bloody serous infiltration at the posterior part of arachnoid; this membrane, when raised, brings with it some of the brain; vessels of pia mater moderately distended: little fluid in the ventricles; cerebrum of good consistence; cortical substance of gray colour, with a slight tendency to rose; white substance has at intervals a slight lilac tinge; all other parts of natural colour and consistence.

Neck.—Amygdalæ somewhat enlarged, otherwise natural; pharynx and œsophagus not examined; on each side of epiglottis several small ulcerations; epiglottis anteriorly irregularly red, and mucous membrane gone; cartilage below abraded, slightly red and very delicate; posteriorly covered with adhesive mucus, the submucous tissue thickened. Edges of glottis thickened, not infiltrated, though with softened mucous membrane; mucous membrane of larynx of a livid red colour, with a number of yellowish white spots at lower part; epithelium continuous over them; sub-mucous tissue much infiltrated, causing disappearance of the ventricles. The trachea excessively red throughout, and covered with a layer of puriform mucus, which could be washed off, leaving the membrane below more intensely red; beneath this a number of small granular bodies could be felt, and numerous small white spots, some of them several lines in diameter, with mucous membrane sound over them; some even prominent were seen; one of these latter was ulcerated.

Chest.—Left lung without adherence; no effusion; edges of lung delicate; inferior lobe rather harder than natural, grayish, rather heavy; internally rather redder than was the upper lobe, which was somewhat violaceous; bronchiæ in this lobe smooth, polished, violaceous; mucous membrane delicate, in lower lobe rather more red.

The right lung somewhat adherent at its base; edges delicate; superior lobes natural, as were their bronchiæ; lower lobe hepatized and mamillated on its surface over a space of three or four inches; bronchiæ natural.

Pericardium free from adhesions, contained three oz. of greenish serosity. Heart of good size, flesh firm; parietes of the right ventricle about one line thick; its membrane internally smooth and transparent; a soft yellowish clot, infiltrated with serosity, but without trace of fibrine, was found in it; left ventricle without clot, and about five lines thick; the aortic valves were of a rosy colour, which was observed extending along the aorta in longitudinal stripes on each side of the orifices of the intercostal arteries.

Abdomen.—Stomach of moderate size, lined with adherent greenish mucus; in the great cul-de-sac, a sort of mucus replaced the mucous membrane, presenting a bluish surface, traversed by dark veins. In other parts the mucous membrane was whitish and mamillated; along the anterior and posterior surfaces linear depressions were observed between the elevations. Along the smaller curvature, white bands, three or four lines broad, traversed it from right to left, deprived of mucous membrane; a similar depression, an inch long and two or three lines broad at the pylorus. To the left, and behind the cardiac orifice, was an ulcer about two inches in circumference, resting on the peritoneum, and immediately opposite, one resting on the muscular tissue; lamina of mucous membrane generally three lines long.

In the small intestines nothing of moment observed, except a slight enlargement of the follicles; they were not tympanitic; lamina of four or five lines throughout; mucous membrane of large intestines healthy, giving lamina of from six to 10 lines; the colon, instead of making the sigmoid flexure, rose up into the left hypochondrium, then crossed to the right iliac fossa, and descended on the right side of the sacrum. The other organs in the abdomen were natural, and in good condition.

It is unnecessary to refer to any other than the lesions in the air passages in order to account for the gravity of the symptoms observed during this patient's life, and for the manner of his death. Yet a train of phenomena which appeared during the last days, evidently directed attention to the organs within the cranium as labouring under some organic lesion or sympathetic irritation; but the somnolence at first noticed, and the agitation during the day and night previous to his death, could easily be accounted for by the diseased condition of the larynx, &c., and therefore seemed to demand no particular treatment other than that which was employed to relieve the larynx. After death, the vessels of the dura mater were found congested, as very generally is the case in death from asphyxia; which condition, with a slight sero-sanguineous infiltration under the arachnoid membrane posteriorly, and superficial softening of the brain in that region, certainly aggravated the disease, and may have been the cause of the symptoms observed during life.

Nor were these the only serious lesions. The softened and ulcerated state of the mucous membrane of the stomach, though not betrayed by any symptom during life, except, perhaps, the pain and convulsive movement at the epigastrium during the early stages of the attack, could not fail to contribute its share in producing the fatal result of the case.

It may not be uninteresting to remark, that notwithstanding the extensive disorganization of the stomach, none of the symptoms given as indicative of disease in that organ, were observed, and there can be no doubt that the ulcerations were the result of inflammation, their position precluding the possibility of their having been effected after death by the action of any liquid remaining in the stomach, even if any had been found there, which was not the case.

The lesions of the epiglottis revealed themselves in this case by a symptom which, with pain in the region of the hyoid bone, has been considered as indicative of its inflammation and ulceration, viz. coughing induced by an attempt to swallow drink, and the rejection of these through the nose. During the last days of this patient's life a curious phenomenon was observed; the formation of large and sub-cuticular collections of pus; and it is worthy of remark, that the pustules in their neighbourhood became at the same time fuller and larger, instead of being drained of their quota in order to supply these larger collections. The right lung presented a mamillated appearance upon its surface, which has been but very rarely seen. Louis remarked that he had met with it but once before, and that was in a case of typhoid fever. No symptom has been observed to coincide with it, nor is it as yet possible to determine upon what it depends.

Case III.— Eruption within 48 *hours; pain about hyoid bone and in larynx; hoarseness; delirium; difficult respiration. Death on* 11*th day. Vessels of the meninges congested; false membranes covering pharynx, œsophagus, epiglottis, larynx, &c.*—Hospital La Pitié. April 7th, 1835. A labouring man aged 19, having enjoyed perfect health until the evening of the fourth inst. was brought to the hospital on the evening of the sixth. He had never been vaccinated. About 10 o'clock on the night of the fourth, he was attacked with a chill, headache and pain in the stomach, followed by fever; a continuation of headache, somnolence, buzzing in the ears, nausea and vomiting, with constipation. He has kept his bed since then, being exceedingly feeble, with a continuation of all his symptoms, except the headache and fever, which became less severe yesterday. Some pain in his throat and an eruption of pimples appeared about that time.

April 7th. Hair deep chesnut, eyes dark, chest rather large, limbs well developed. No relief since his entrance; an air of despondency and stupor in his face; great weakness. Respiration scarcely accelerated; no cough; on the right side of his face and on his forehead some scattered watery pimples observed, none on his eyelids; some red spots on chest and abdomen; very few on the extremities. Tongue moist and natural, no pustules on it: some few on the velum palati; his throat dry, though deglutition easy; stomach painful on pressure, no vomiting; bowels bound. *Diet; emollient gargle; sweetened solution of tartaric acid for drink. Infusion of flaxseed injection.*

April 8th. Feels stronger: no cough, little expectoration; some pain in throat, no alteration of voice; the eruption more abundant on right side of face, forming a distinct spot: more on the forehead, and some new on left side and on the lips. Spots much more numerous on the body and extremities, where they are deep red, paler in the centre. The heat is little elevated. Pulse 90, not too full. Tongue without pustules; these seen in abundance on the velum, uvula, pharynx, and amygdalæ. More pain in the stomach; no vomiting. *Continue as above.*

April 9th. Slept well yesterday and still has an air of somnolence. The eruption still more abundant and more confluent all over the body, surrounded by a red areola; the face a little swollen. Heat little elevated. Pulse 74. Complains of much difficulty in deglutition; pain in the throat and larynx, much thirst, no vomiting; the fauces and pharynx very red and spotted with pustules. *Continue. Venesection ℥ viij.*

April 10th. The blood exhibits rather a firm clot, surrounded by a slight zone of serosity; no buff. Pulse calm, 80; no heat of skin. Face somewhat swollen and very red between the pustules, which are white, semi-transparent, very confluent, flat, and some with central depressions; eyelids very red with a few pustules; those on body and extremities very large and numerous, surrounded by a red areola, not well filled, umbilicated. Pain about the hyoid bone; voice a little changed: much thirst, tongue moist. *Venesection ℥ x. Cauterize the pustules in pharynx.*

April 11th. More serosity of the blood; clot of moderate consistence; no buff. Less pain in swallowing and in the throat, (no note is made whether the cauterization was performed,) some alteration of the voice; two pustules on the end of the tongue. The face swollen, lips a little so; pustules on the face and body fuller and more developed. No vomiting. *Continue drinks as above.*

April 12th. Moves with difficulty on account of the number and soreness of pustules. On the face, which is less swollen, pustules more developed are beginning to fill with yellowish matter; eyelids more open and less swollen; hands much swollen and covered with pustules, which are well developed, as are those on the body and limbs; many are seen upon the penis and its prepuce. He has coughed a little with much pain, and expectoration of rounded yellowish dabs floating in a quantity of saliva; much thirst; deglutition difficult; voice much altered; tongue thickened, natural in colour anteriorly, with some pustules on it. Two stools. *Injection of soap-suds. Four pints of drink as above.*

April 13th. Vomited yesterday with pain at the epigastrium and umbilicus; delirious during the night, mind clear to-day. Much thirst; cough; some difficulty in respiration; considerable salivation; great pain in the throat and hoarseness of the voice. Face almost covered with a sheet of pearl-coloured pustules, exhibiting occasional depressions and patches of red skin; some pustules scabbing about the nose; eruption on the body flat, though full, and seated on a rose-coloured areola; pustules on limbs better filled and rounded, less white than elsewhere; hands swollen; one stool. *Continue as above.*

April 14th. Delirium and headache during last three nights; much pain in the throat this morning; salivation, cough, and great hoarseness; respiration much embarrassed, 28 to 30 inspirations in a minute, each attended with a whistling sound. Face much swollen, eyelids closed, and great quantity of tears discharged; pustules less white, and more generally scabbing; elsewhere they seem pretty full and regular; hands much swollen and very painful. *Some of the pustules on the hands to be pricked.*

During the night the patient died.

Post-mortem examination after 36 hours.

Externally.—No stiffness; greenish tinge of abdomen; eruption covered more surface than was occupied by sound skin, except upon lower extremities; muscles of good colour and consistence.

Cranium.—Vessels of pia mater and sinuses filled with a dark violaceous blood; a spoonful of serosity under arachnoid membrane on the sides of the brain, and two in the occipital fossæ; in the lateral ventricles a teaspoonful of transparent limpid serosity; membranes closely attached to the brain, but may be removed without raising any of its substance; glands of Pachioni abundant; substance of brain of good consistence; the cortical was of a cream colour, the white had a lilac tinge; corpora striata natural; thalami rather pale; cerebellum and medulla oblongata natural in colour and consistence.

Neck.—The pharynx, œsophagus, epiglottis, and air passages, were lined with a thick pultaceous substance, whitish in the two former, and reddish in the air passages and upon epiglottis, easily washed off; beneath this the pharynx presented pustules open at their centre, and half a line in diameter; œsophagus presented a healthy mucous membrane, from which the epithelium could be easily removed; the epiglottis was of a livid red colour, and thickened in its submucous tissue; fibro-cartilage healthy; the redness continued into the trachea through the larynx; in the latter the submucous membrane much thickened; no ulcerations; epithelium intact; in the trachea some whitish spots was observed; mucous membrane there livid red and polished. The right bronchial tube was in the same condition as the trachea; the left healthy, as were the divisions of the right.

Chest.—Left lung free, one and a half ounces of serosity in the pleura; lung light and of a bluish red colour; deeper internally; tearing easily, allowing an aërated red liquid to escape. Bronchiæ sound and transparent. The right lung much in the same condition. In the pericardium one and a half oz. of serosity; no adherences; the heart was pale, somewhat softened, not flaccid; right ventricle contained a yellowish red clot of moderate consistence; its parietes one and a half lines thick; the valves of the pulmonary artery irregularly livid red, as were the aortic; colour extending in longitudinal striæ into the aorta, and penetrating into the middle coat; parietes of the left ventricle four lines thick.

Abdomen.—The stomach contained some gas, and a dirty yellow liquid; its mucous membrane gray, giving lamina of four to six lines, except in grand cul-de-sac, where it was mamillated, presenting below a brownish colour; there was here, also, a small spot of a deep red colour; lamina over it only two or three lines in length. The small intestines were slightly tympanitic, containing a yellowish liquid; the mucous crypts of the duodenum were like small firm granulations with black points; this appearance continued into the jejunum, where it ceased; mucous membrane elsewhere of a dirty rose-white colour, paler at points; Peyer's glands more prominent than usual, and gray. The mucous membrane of the large intestines of a dirty yellow colour, they containing fœcal matter, without redness or ulceration; in upper portion, many follicles enlarged, and their orifices distinct.

The liver was eight inches by seven, of good colour and consistence; gall bladder healthy; spleen rather voluminous, pale externally, and softened, containing a thick red matter, easily raised by scraping; pancreas five inches long, somewhat injected; the kidneys of natural size, containing in their pelves a lactescent puriform matter; no injection; the bladder in a normal condition.

As in the two previous cases, the eruption was here observed within 48 hours after the first symptoms of indisposition, and continued to increase in abundance during two days, or until the period generally fixed by writers for its first appearance. In other respects it seemed to run its natural course, except that from the third day, and more especially the 6th, difficulty of deglutition, pain in the throat, and hoarseness, directed attention to the air passages and pharynx, giving alarm respecting the safety of the patient. Notwithstanding the employment of active remedies, these symptoms became more severe, were attended with somnolence and headache, alternating with delirium, difficult respiration, and finally terminated in dissolution. After death, the engorgement of the meningeal vessels, and a very slight sub-arachnoidean infiltration was the only lesions in the organs within the cranium, while the pharynx, œsophagus and air passages, were found extensively diseased, and gave satisfactory evidence of the cause of the patient's death.

As before remarked, pain felt about the region of the hyoid bone, indicates disease of the epiglottis, and the examination after death verified, in this case, the diagnosis of the lesion of this organ, which was made when the symptom was observed during life. Nausea and vomiting were met with in this case at several periods, while the lesions observed in the stomach were far less serious than those recorded in the previous case, where no such symptoms existed. A small red spot, over which the mucous membrane was somewhat softened, alone appeared to account for these symptoms, for the mamillated condition of a portion of it will not suffice to explain their existence, it having been met with in both the previous cases also without any coinciding phenomena to betray it; and indeed no symptoms have been noticed as always attending, and diagnostic of it.

Cauterization of the pharynx was again employed in this case to relieve the larynx, but without more than, at most, partial success, if any at all was obtained. It would, at any rate, seem to be a therapeutic means of but doubtful utility in variola, whatever may be its advantage under other circumstances in diseases of the larynx.

Among the post-mortem appearances recorded in the last two cases, was a redness of the pulmonary and aortic valves of the heart, extending also some distance into the aorta itself. This condition must be regarded as merely a cadaveric result, and not as indicative of disease existing in these organs, of which, indeed, there was no symptom during life; for it is a pathological fact, that if a body be not opened until 24 hours after death, particularly in warm and damp weather, there will almost invariably be observed a redness of the lining membrane of the heart and of the aorta. In these cases, the bodies was opened one 24, and the other 36 hours after death, and it is therefore more than probable that the appearance noticed above was entirely cadaveric.

To my friend, Dr. John A. Swett, I am indebted for the following notes of three cases collected by him in Paris. It is to be regretted that they are without detail of symptoms during life, except in one instance, as they agree so closely with those which precede in the character of the lesions observed after death. In the case, however, which contains the previous history of the patient, the earlier stages of the variolous affection were so complicated with an eruption of measles and of purpura, that nothing can be determined as to the moment when the system was first under the influence of the variolous infection; in fact its main interest is derived from the cöexistence of several affections, marching together without apparent interference, and greatly aggravating the perilous condition of the patient.

Case IV.—Rubeola, Purpura, and Variola, co-existing; stupor; aphonia; breath fœtid. Death on 10th day. Epiglottis and larynx covered with slate-coloured exsudation; œsophagus and stomach of a pale slate-colour, and ecchymosed; in stomach a spot of incipient gangrene.—Hospital La Pitié, Oct. 31st, 1835. A man, one of the nurses in the wards of M. Louis, of stout frame, and apparently good constitution, had been complaining during four or five days, of what was supposed to be a quartan ague; when on the 26th inst. an eruption of rubeola was observed, particularly well marked upon the chest; assuming on the face an uniform crimson flush. There was no cough; but at times a mucous rattle was heard over the lower and posterior portion of the right lung; some febrile excitement. On the 28th, two days after this eruption appeared, spots of purpura were noticed upon the body, and on the 30th the pustules of variola were seen on the face. He was bled ℥x. and the next day his condition was as follows:

Oct. 31st. The eruption of rubeola still marked upon the chest, but fading; the pustules on the face small, almost confluent; semi-opaque, and generally umbilicated; the purpura, very strongly marked; purple spots, the largest not bigger than a sixpence over the trunk, forehead, nose, and arms, of an uniform slate colour. A state of partial stupor existed; brow contracted; brownish serum flowing from the nose and eyes, and forming a thick dark-brown crust; aphonia; rattling of mucus in the throat, respiration, 30 in a minute; no mucus rattle behind. Tongue natural, breath fœtid; no vomiting, or diarrhœa; much fever; pulse 136, not feeble. The blood drawn yesterday did not coagulate; it consisted almost entirely of turbid serum, with a trifling black sediment, looking like thick molasses. *Sinapisms to thighs; solution of sulphuric acid in water, for drink.*

He died in the evening, and an *examination of the body was made* 36 *hours afterwards.*

Externally.—No emaciation; marked cadavaric stiffness; ecchymosis of the muscles of the chest.

The viscera of the *cranium* and *thorax* were healthy. The heart entirely empty of blood.

Neck.—Epiglottis thickened; its upper surface as well as the interior of the larynx, covered with an exsudation of a pale slate colour, easily scraped off, and leaving the mucous membrane beneath dark red. The trachea also, more red than natural, though less so than the larynx. The mucous membrane of the œsophagus of a pale slate-colour.

Abdomen.—The external surface of the stomach of a pale slate-colour; internally, it was almost universally spotted with ecchymosis giving to the great cul-de-sac an almost black appearance; this less marked upon the anterior surface; still less so along the lesser curvature: in the great cul-de-sac, the mucous membrane thinned, softened and partially destroyed; in one spot there was incipient gangrene. There were about two ounces of a thick slate-coloured liquid in the stomach; the same was observed in the small intestines, which were internally healthy, but externally slate-coloured. The large intestines contained some ecchymoses; liver healthy; gall bladder empty; spleen not noted; considerable ecchymosis in the cellular membrane about the kidneys; reddish liquid in the bladder, where the mucous coat presented some ecchymosis; this was also observed under the peritoneum along the spine.

It is generally denied that two diseases can exist at the same time in the system, each running its natural course, without interfering with the other. Thus, when two eruptive diseases are observed in the same individual, it is stated that one runs first its allotted course, the other remaining as it were dormant for the time, and then advancing in its turn to maturity. Now, imperfect as are the details of this case, there can be no doubt that rubeola and variola existed in this patient; and that they marched along in their natural manner without interfering one with the other; nor can it be questioned, that the patient's life was placed in greater jeopardy by this state of things. But the fatal result is rather attributable to the condition of the patient's system at the time of the attack. The spots of purpura which were formed at an early stage of the affection, indicated a constitutional derangement, which in itself, was of a most unfavourable augury; and when considered in connection with the disorganized condition of the blood drawn from the veins, could leave but little hope for the recovery of the patient. Indeed, from the earliest times, the eruption of petechiæ, in cases of variola, and in many other diseases, has been regarded as one of the signs of a fatal termination; because it evinced such a state of the blood as to preclude almost the possibility of its resuming once more its healthy character, and its proper stimulating powers towards these organs, upon the integrity of whose functions life depends.

Independently of this general disordered state, the lesions found in the air passages, whose existence had been suspected and recognised during life, were in themselves sufficient to have caused death; and were of the same character as those recorded in the previous cases, modified somewhat by the depraved condition of the system. At what point the symptoms first revealed the existence of laryngeal disease, the details of the case give us no information. But it is probable that it was very early in the attack; for the affections of the air passages are among those first observed in rubeola, which here complicated the variolous affections.

Case V.—Cough; aphonia. Death on the 7th day after the appearance of the eruption. Epiglottis, larynx, and trachea, inflamed, and covered by false membranes. Bronchiæ inflamed; pneumonia at 2nd stage in both lungs. Nov. 17th, 1835; a young girl, aged 14, died in the wards of M. Bonneau, on the 7th day after the appearance of an eruption of variola. The disease was well marked, and she suffered from diarrhœa, cough, and aphonia. No cerebral symptoms were observed.

Brain, natural.

Post-mortem examination 36 *hours after death.*

Neck.—The mucous membrane of the epiglottis, larynx, and trachea, was completely covered by a dirty, yellowish-gray coating, easily scraped off; leaving the mucous membrane of a dark red colour, thickened, and slightly softened; the submucous tissue much injected.

Chest.—The mucous membrane of the bronchiæ, even to the minutest branches, was of a deep red colour. The lower lobes of both lungs were in a state of red hepatization, and their whole substance considerably loaded with blood.

Abdomen, &c.—The tongue was of a dirty yellow colour with pustules on it; the mucous membrane of the pharynx was covered by the same pultaceous mass as the larynx, &c. A few pustules were observed in the œsophagus; its mucous membrane natural around them. On one of the tonsils, an ulcer with thickened and softened edges, and irregular base, was seen.

The stomach contained a dirty brown mucus; mucous membrane softer than natural along the posterior surface; near the pylorus mamillated. In the small intestines, mucous membrane softened; not injected except in spots; glands of Peyer natural. Large intestines, sound; some mucous follicles enlarged and red. In the intestines a brownish mucus, with some dark and consistent fœces in the cœcum. The mesenteric glands somewhat enlarged and congested. Liver rather congested, otherwise natural. Gall bladder full of bile, like liquid tar. The other organs presented nothing remarkable.

The absence of symptoms deprives this case of much of its interest; but sufficient is known to point attention during life to the air passages, and to lead to their examination, for the cause of the patient's death. Indeed the same appearances were met with as in all the previous cases; false membranes with a deeply injected mucous membrane beneath. A few pustules were also seen in the œsophagus, seated on a healthy mucous membrane. This is of rare occurrence; for the delicate epithelium that covers them is hardly able to resist for any length of time, the friction occasioned by the swallowing of the various ingesta, or the distention to which it is subjected by the collection of matter under it, and thus the pustules are generally broken before the period at which death occurred in this case.

This observation presents another lesion which we notice for the first time, in the cases here reported, viz. the injection of the bronchiæ to their minutest ramifications, coinciding, however, with inflammation of both lungs. Two of the previous cases presented inflammation in one lung but without any alteration in the bronchial tubes.

Case VI. — *Sudden Death on tenth day, from apparent choking. Epiglottis, larynx, &c. inflamed; pneumonia at second stage in one lung.* — A little girl, aged two and a half years, was apparently labouring under a slight attack of variola, which had reached its ninth day without any untoward symptom, when, upon the 10th day, just as the suppurative stage was well established, she was suddenly affected with a sense of choking, and died in an hour.

The epiglottis was red and somewhat swollen, but not softened. The larynx moderately red; the inferior vocal chords swollen and rough; no ulcerations or pustules; the trachea was inflamed in patches, formed by a multitude of minute, transverse, tortuous lines; there was no thickening or softening of the mucous membrane, and no pustules.

The bronchiæ were inflamed, but less so the farther they were dissected. The lower lobe of one lung was hepatized; a few tubercles were observed in the second stage in one lung, and in the bronchial glands. The liver was slightly fat. The stomach and intestines were much distended with gas, but were not examined farther.

The manner of the death, and the lesions in the epiglottis, larynx, &c. afford additional proof to the position, that at least $\frac{19}{20}$ths of the deaths in smallpox are occasioned by affections of the air passages. Here also the bronchial tubes were inflamed, and one lung was hepatized.

The presence of tubercles in one lung in the second stage, and the fatty condition of the liver, are interesting coincidences; it being stated that the latter is only met with in cases of tubercular phthisis.

The following is the history of a case which occurred in a woman at about the seventh month of pregnancy, and resulted, during the convalescence of the mother, in the birth of a living child, covered with an eruption of variola, at the commencement of its second stage, but dying almost immediately afterwards.

Case VII. — Hospital La Charité, Jan. 10th, 1836. An unmarried woman, aged 23, entered the wards of M. Bouillaud, being *enciente* six and a half months, and having worked in a family where the smallpox was prevailing. Movements of child felt during some time past, and inability to retain anything on the stomach for the last six weeks. In other respects, perfectly well, except a slight cough, until the night of the 3d inst. when the invasive symptoms of variola appeared, and continued until the 7th. The cough became worse, was attended with pain in the throat, and an eruption of small red spots was seen on her face and other parts of her body.

Jan. 11th. In bed; little fever; headache; pain in throat, and hoarseness since the 7th; eruption of variola well marked in a large number of umbilicated pustules, containing a clouded serosity, and seated on a red areola. The tongue and velum palati red and somewhat swollen, covered with pustules. Movements of the child felt by her; beating of fœtal heart heard at right side of umbilicus. She was leeched at the neck this day; the leech-bites bled freely, and she was easier: the eruption advanced naturally. On the 14th, the hoarseness and pain in the throat nearly gone: the pustules began to scab, her general symptoms were disappearing, and nothing occurred to annoy her, or retard her recovery until the evening of the 21st, when there was much pain in the abdomen, though the child was still felt to stir, and the fœtal heart was heard beating.

Jan. 25th. The pain in the abdomen continued until five o'clock yesterday morning, when she was delivered of a living child, covered with an eruption of umbilicated pustules; it uttered a faint cry and died. There was much pain after this, with some lochial discharge, which gradually stopped, and the woman left the hospital about a week afterwards perfectly well, there being no evidences of the eruption, except some red spots without much depression.

The chief interest presented by this case, is in the abortion which occurred during the convalescence of the mother from an attack of variola, and in the birth of the living child at seven months, covered with an eruption of umbilicated pustules. This is far from being a solitary case of variola communicated by the mother to the fœtus-in-utero; numerous others are recorded, and have always been adduced as facts in support of the doctrine of the direct communication of the circulation of the female with that of the child. Whatever may be said of the doctrine itself, and it cannot be doubted that something of the kind exists, it may be questioned whether such cases as this, can in any way be brought forward in the argument. This child was born with the eruption in its second stage, that is, at about the eighth day after the first appearance of the invasive symptoms in the adult; the mother having already entirely recovered, there being at the time of its birth no evidences of the eruption, except the red spots upon the skin succeeding the fall of the scabs; and the day of the birth being 21 days since she was first attacked, or 17 days after the appearance of the eruption.

Was not the disease in this case communicated to the child by contagion, just as it is conveyed to any other person who might happen to nurse the mother, or be exposed to the atmosphere in which the peculiar miasma of variola exists? Such seems to me the true explanation of the circumstances of this case; for if the disease was conveyed through the circulation, why should not the fœtus have been affected at the same time as the mother herself?

A brief abstract of the cases of three other patients who recovered, is here added, it being deemed sufficient for the present investigation, as they contain nothing which would render their detailed publication advisable, and as the general history of this affection is already too well known to require more than a passing remark. The object of the present paper is merely to illustrate some points that have either been unobserved or neglected, and which, in a practical view, are considered important.

None of these patients bore the marks of vaccination, and only one of them was known to have been exposed to the contagion of variola. The attack in all was ushered in by severe febrile symptoms and pain, with vomiting in two cases, one a child, and the other an adult, (in this case, however, it was only after taking warm teas for the purpose of exciting perspiration, and only lasted one evening;) in one only, is there certainty of a chill preceding the fever. Four days after the first indisposition, an eruption of red pimples was observed first on the face, and then upon the rest of the body, new ones being remarked for two days, appearing while the others advanced. At the same time, the fever declined a little, but difficulty of deglutition and soreness of throat with hoarseness in one, and an eruption of pustules on the velum palati and pharynx in all, was observed. These latter symptoms became worse as the eruption advanced until about the eighth day, when the fever once more returned, with swelling of the face, and the secretions of yellowish serum in the pustules; in one instance, with increase of the laryngeal symptoms, in the others, with a diminution, the hoarseness having previously made its appearance in all. From this time they all gradually recovered their appetite, the pain in larynx, difficulty of deglutition, and hoarseness disappearing, while the pustules gradually dried into scabs, which were completely formed by the twelfth day. In one case, there were no scabs formed except when the pustules were scratched upon the face and arm. The others became gradually flabby and shrivelled, the sacs forming them finally falling off about the 14th or 15th day, leaving behind large rose-coloured spots: two or three abscesses were formed during this time, and were opened, discharging a small quantity of laudable pus.

In the treatment of these cases, laxatives, emollient gargles, absolute diet and repose, and cooling drinks, were alone employed, except in one where the symptoms referred to the larynx, threatened to be serious; in this, a bleeding of ℥ x. and the application of leeches to the neck was resorted to, and with almost entire relief of the symptoms.

Remarks.—A careful examination of the above cases leads to the following important deductions:

1st. That the consideration of the duration of what is called the invasive stage of variola, will afford valuable assistance in establishing the prognosis of a given case, the prospect of a fatal result being greater in proportion as this stage is shorter.

And, 2d. That the lesions of the larynx, and air passages generally, are by far the most influential in causing the death of patients labouring under variola, and that symptoms indicating their existence are observed in every case of the disease, at least, of the confluent form.

In support of the first proposition, it appears that in the three first cases which were fatal, and which alone of the six which died, present any accurate details of the early stages, the eruption appeared within 48 hours after the first moment of indisposition; while in the four cases which recovered, there was no evidence of eruption until upon the fourth day. In all of these cases, the eruption was *successive* during two or three days, and the confluent form existed. This is an important fact, for it is stated, that "when the eruption is *successive* in confluent variola, the danger is, in general, less imminent."* Such may, indeed, be the case, but the probability is that another element exists which was not taken into consideration, viz. the period at which the eruption first appears, and that it greatly modifies the result. It may be thought unwarranted to deduce this conclusion from the small number of cases presented; but when such entire uniformity of result follows apparently the same causes, and that, too, in observations not selected, but collected without the possibility of knowing what was to be the issue, it is impossible to resist the conclusion necessarily drawn from them; that in proportion to the greater or less duration of the invasive stage, will be the probability of a favourable or unfavourable result.

Whatever tends to render the prognosis more accurate, should be carefully examined, for in proportion to the expected gravity of the attack would then be the remedial agents employed or the activity of treatment resorted to. In a practical point of view, the above conclusion is, therefore, very important, for it is the duty as well as the interest of the practitioner to weigh with care everything which promises to assist him in the cure of disease. And even though future observations may not sustain the above position in its fullest sense, it is hardly probable that the cases herein related are altogether exceptions to a general rule.

The affections and lesions of the fauces, pharynx, larynx, epiglottis, &c., as complicating and aggravating an attack of variola, have already been several times alluded to in remarking upon the different cases, and it is now proposed to bring together, in as succinct a manner as possible, the facts which have presented themselves.

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* Rayer. *Maladies de la Peau*, vol. i. p. 540.

And first, as to the symptoms observed indicating a diseased condition of these parts: What are they? At what periods of the attack do they present themselves?

The existence of pustules upon the tongue was ascertained in seven cases of the 10 reported, or in all of which details are given of the patient's condition during life. The period at which they appeared was from the sixth to the ninth day. In one (v.) of the other three cases, they were seen after death. This accords fully with the accounts given by authors. Upon the posterior part of the mouth, as the velum palati, uvula, and amygdalæ, the mucous membrane was observed to be red and generally swollen, and in every instance was found upon one or all of these parts, studded with pustules, which appeared in the three fatal cases upon the third day, or nearly coinciding with the period of eruption upon the skin, and in the other four cases of which details are given on the sixth and eighth days.

By some authors it is denied that any pustules are ever seen in the pharynx; that what are generally taken for them, are merely enlargements of the mucous glands with developed orifices. This may be the case, but there is no reason at all why they should not occur upon this part as upon any other membrane covered with epithelium. Whatever may be the opinion adopted as to their nature, the appearance of these elevations was noticed in three cases, occurring in one upon the fifth and in the two others upon the sixth day. In one other the membrane was observed to be very red; in two others there was nothing irregular during life at least. No mention is made of its condition in four cases.

It may be here mentioned that in one case, a few pustules were found after death in the œsophagus, seated upon an otherwise healthy mucous membrane. The child died upon the seventh day after the eruption manifested itself, with serious lesions of the respiratory tubes.

Salivation was noticed in three cases occurring on the sixth and seventh days; in one there was none, and in the other six no mention is made as to whether it existed or not.

Deglutition became painful in two (i. iii.) of the three fatal cases upon the third day, or that upon which the eruption in the mouth was observed, and the difficulty continued to annoy the patients until the sixth day, when it also appeared in case ii. and was aggravated in all by the condition of the larynx which had now become seriously affected. In the four cases which recovered, painful deglutition was noticed on the fourth day, but was not very severe although it lasted for several days.

Pain in the throat or about the larynx is noted as having existed in the seven cases which present detailed histories. In cases i. ii. iii. which were fatal, it appeared about the third or fourth day, and gradually increased until the patient's death; having, in one case from its severity, caused the patient to refuse to talk. In the four other cases it was noticed from the fourth to the sixth day, and continuing until about the tenth, then disappearing as the patient recovered.

Pain was felt in case iii. in the region of the *hyoid bone* upon the seventh day. This symptom, as has been before observed, is indicative of an affection of the epiglottis, and may be considered as certainly coinciding with it, whenever this last is met with, although the latter may exist even when the pain is absent.

Hoarseness of the voice was observed in cases i. ii. iii. upon the seventh day, increasing until death occurred. *Aphonia* was recorded in cases iv. and v. of which there are no details until the day of the patient's death; in case vi. there are no symptoms mentioned. In three of the other four cases, there was hoarseness occurring about the fourth to seventh day; in the fourth, all the other symptoms of an affection of the larynx was present, as cough, pain in that region, &c. The *cough* and *expectoration* in these cases was of but little moment and never attracted attention unless it had previously existed, except in the three fatal cases of which details are given. In these the patients complained of slight and very painful coughing during the last days, with, in one case, (i.) viscid greenish expectoration.

In two cases only was any symptoms of *cerebral disorder* remarked. One of these (iii.) was affected with delirium during the last three nights, while the intelligence was perfectly clear during the day. In the other, (iv.) the patient laid in a state of stupor during the last 24 hours without any indication after death of disease of the brain.

Death occurred in six cases; upon the 10th (v.) 11th (ii. iii.

and iv.) 12th, (vi.) and 13th days. All were affected with embarrassed respiration, and died in an agony of some length, from suffocation, or from the same cause that produces death in laryngitis or croup, except one, (vi.) which, without much previous notice, appeared to choke, and died an hour afterwards. This point will again be adverted to after having passed in review the lesions of the organs chiefly affected.

Having now examined in detail the symptoms referred to the fauces, pharynx, larynx, &c. it is necessary to ascertain the lesions which they betrayed, and the frequency with which these last were observed in the different cases.

The *epiglottis* was covered in three cases, (iii. iv. v.) with a soft pultaceous membrane, easily washed off, and of a dirty yellow colour in one, (iii.) pale slate colour in another, (iv.) and reddish in the third. (v.) In case ii. it had a coat of adhesive mucus on its posterior surface, with ulcerations at its base, and the anterior portion of its cartilage abraded and red. It was in this case, that, during the last day of the patient's life, coughing and the rejection of liquids through the nose were caused by an attempt to drink. In all six cases, the mucous membrane was dark red, covering an infiltrated submucous tissue.

The *larynx* was in every case red and inflamed, and its submucous tissue so infiltrated, particularly about the vocal chords, as almost to preclude the passage of air. Besides, in four cases (i. iii. iv. v.) a pultaceous membrane easily scraped off, and corresponding in colour with that upon the epiglottis—and in case ii. a puriform mucus spread over it internally, greatly diminished the already contracted calibre. The epithelium was intact; no ulcerations was observed in any, though the mucous membrane presented, in two instances, (ii. and iii.) white spots upon it.

The *trachea* was in every case more or less inflamed, its mucous membrane intensely red, and polished in all but one, (iv.) where it was more red than natural. In one case only, (ii.) was there ulceration; in one (v.) the mucous membrane was softened and somewhat thickened; in two (ii. iii.) it was covered with small white spots, over which the epithelium was intact, and in two (i. ii.) it was granulated. Three cases (ii. iii. v.) exhibited the same pultaceous membrane which had been observed in the larynx.

The *bronchiæ* are not mentioned in one case (i.); were perfectly healthy in three, (ii. iii. and iv.) and in two were inflamed. (v. vi.) Of these two last individuals, both children, the lower lobe of both lungs was inflamed in one, (v.) and the lower lobe of one lung in the other. (vi.) In case i. the lower lobe of one lung was inflamed, but the condition of the bronchiæ was not recorded. In cases ii. and iii. both lungs were deeply congested.

The pathological condition of the *organ within the cranium* will now be briefly noticed. The brain and its membranes, were perfectly natural and healthy in four cases (i. iv. v. vi.) Much congestion of the vessels of the meninges in two cases, (ii. iii.) a sub arachnoidean infiltration posteriorly in both, a little sanguinous in colour, and with superficial softening of the brain, in case ii., were all the lesions observed in these organs. It may be here remarked that the only observations that afford the evidences of disorder within the cranium, are those which presented the most serious lesions of the air passages, so that the affection of the meninges here recorded can only be considered as having aggravated the attack, though it probably had little effect in occasioning death. Much more is in general attributed to lesions of the brain and its membranes as causes of fatality in variola, than they justly deserve. That they are very serious when they occur, there can be no question, but it is far from being ascertained that they are very frequent complications of this fearful disease. Nor is it to be denied that many symptoms are often met with in the latter stages of this disease, closely simulating those occasioned by lesions of the brain itself. But may not these be considered rather as the consequences of an imperfect or unusual stimulation of the brain by a vitiated blood? We know that in diseases of the heart, in emphysema and other affections of the lungs, attended with great dyspnœa, the blood cannot derive from the air, which traverses the lungs with great difficulty or in diminished quantities, those qualities which are essential to the normal execution of the functions of the various organs. The brain must experience the same inability to fulfil its important agency in the economy of life, under the unusual stimulus to which it is subjected. It can, therefore, be no matter of astonishment that delirium, convulsions, or coma are observed in the last stages of variola, where the patient is suffering under the agonies of imminent asphyxia. Nor is it surprising, that, under these circumstances, no important lesion of the brain itself should be observed to account for these symptoms, other than, perhaps, a fulness of the meningeal vessels, or a lilac tinge of the substance of the brain itself.

It is unnecessary to discuss this question any farther. After a careful analysis of the symptoms observed during life and of the lesions noticed after death in the above cases, and upon the comparison of them with each other, it is impossible not to be struck with the frequency and dangerous tendency of affections of the mucous membranes, in cases of variola, particularly of those in the upper portion of the alimentary canal and those covering the larynx and air passages generally. It is upon these last, as has been shown, that the disease seems to concentrate its greatest virulence, and to be productive of the most serious consequences. In all the fatal cases above recorded, lesions of the epiglottis, larynx, and trachea, have been found to be the most prominent and to have betrayed themselves during life by the most marked symptoms. Indeed it cannot be doubted that they alone were sufficient to cause the patient's death in every instance; and there is no more reason why death should not result, in cases of variola from such lesions of the air passages, than that such should not be the case in laryngitis or the croup of children, when almost the same lesions are observed. As far as the above cases may be deemed conclusive, the proposition with which these remarks were prefaced, may, it is thought, be considered as fully proved; namely, that the lesions of the larynx and air passages are generally by far the most influential in causing the death of patients labouring under variola, and that symptoms, indicating their existence are observed in every case of the disease, at least in the confluent form; and there can be no hesitation in recognising the truth of the law which has been stated by Louis, in his lectures, that *fifteen twentieths* of all that die of variola, perish from ***asphyxia occasioned by disorganization in the air passages.***

ART. V.—*Spinal Irritation: its History, Pathology and Treatment.* Illustrated by Cases. (An Essay read before the New-York Medical and Surgical Society, November, 1839. By JOHN H. GRISCOM, M. D. of New-York.)

"*Non numerandæ sed perpendendæ observationes.*"—MORGAGNI.

THE propriety of the classification of certain diseases under the term *neuroses*, has become eventually established, and although, at times, because of the ultraism with which all diseases have been, or attempted to be, driven by various writers into this single line, its propriety has been questioned, and nervine remedies have fallen into disrepute: yet the proofs that a great many disorders incident to the human frame, can only be attributed to some derangement of the nervous system, are too clear to admit of any doubt. In many local affections we can directly trace the disorder to the nerves supplying the affected organ, either by autopsia, by the nature or location of the remediable application, or some other more or less unequivocal means. There is, on the whole, a great deal more uncertainty with regard to the pathology of many of these neuralgic disorders than of any other kind, and we meet with a great many anomalous affections whose nature it is impossible for us to determine satisfactorily.

Many nervous disorders, no doubt, have for their proximate cause a derangement of the *function* of the supplying nerve, while a great many others, and perhaps a majority, classed among the neuralgiæ, depend for their existence upon an inflammation of the neurileme of the nerve itself. This latter theory is admitted, I believe, on all sides, as it is a matter more susceptible of proof.

Still there are a great number of affections evidently nervous, that is, depending for their existence solely upon some kind of derangement of one or more nervous trunks or branches, which we cannot presume to be owing to an inflammation of its nerve, or its covering, or to a loss of its function. The suddenness of their accessions and cessations, the shortness of their duration, the great and frequent changes of their localities, besides being generally unaccompanied by any febrile reaction, all conspire to preclude the idea that these neuralgic disorders, consist of an *inflammation* such as we know other tissues to be affected with. The incomprehensible nature of nervous influence, and of the connection of mind with matter, although undoubtedly made through the nerves, place far from us the hope of ever being able satisfactorily to elucidate the pathology of disorders which have their seat in these mysterious tissues, particularly those which are classed under the popular and comprehensive name of "nervous disorders," such as excitability of the whole nervous system, &c.

From what I have been able to learn of the operations of this tissue in health and disease, the maladies incident to it may be divided into three classes, as regards their proximate cause: — 1st. Those which depend upon an inflammation of the nerve or of the neurileme, the mechanical distension of the enlarged blood-vessels exerting a compressing force upon the material of the nerve, whereby its peculiar powers are altered or arrested in their action, and violence produced. A supposed instance of this class is neuralgia, or tic douloureux.

2d. Those which depend upon a loss or diminution of the peculiar *function* of a system of nerves, a single nerve, a branch or a filament, without any apparent alteration in the structure or condition of the part. Under this head may be classed total or partial paralysis, numbness of various parts, amaurosis, &c.

3d. A peculiar, and until lately not much noticed, condition of a certain set of nerves, which cannot be said to consist either in inflammation, or of loss of function, properly so called. This condition may be, perhaps, better designated by the term *irritation* than any other, and having crept into very general use, it may be received as a legitimate expression, though its precise meaning may not be very clearly defined. It is to the last of these three classes that I wish at present to confine my attention.

Considerable notice has been, of later days, drawn towards this singular disorder on both sides the Atlantic, in Great Britain and Germany especially. In the various papers that have been given to the world upon this class of diseases, the writers confine their attention chiefly to that system of nerves which originates in the spinal cord, known as the spinal nerves. We have no reason to suppose that such a disorder may not happen to any other system of nerves; but if it ever does, the symptoms have been too little known to well define it, when independent of that of the spinal nerves. If the latter may be involved in this irritation, the cerebral and ganglionic systems may be also, but the effect of such a location of the irritation not being so apparent, we must remain in doubt respecting it, until some more acute observer shall arise to throw another gleam of light into the Siberian darkness in which the subject is still involved.

This view, however, is even now not without its advocates, and they among the magnates of medicine. *Segond* believes the disease known as "vegetable colic" to be a neuralgia of the great sympathetic. *M. Pascal* also thinks this disease is situated in the ganglionic system, and found the employment of internal medicines to relieve the pain and irritation, and of external revulsives, was far preferable to obtaining large evacuations by purgatives and bleeding. *M. Marquand*, who is said never to have lost a patient with that disease, believed in its nervous origin, and treated it by opium and purgatives. *M. Andral*, speaking of the *lead colic*, says, "to us it seems the lead colic is a nervous disease, in which there would seem to be especially implicated the spinal marrow and abdominal plexus of the grand sympathetic." *M. Rauque*, so well known by his work on lead colic, "places the primitive seat of this disease in the portions of the pneumogastric and trisplanchnic which are distributed to the stomach, the intestinal canal, the liver, the kidneys, and the bladder; and the secondary seat in those portions of the cerebro-spinal system which supply either the painful limbs or integuments of the head." Similar views may doubtless be entertained with respect to many other diseases of the involuntary organs. That the spinal nerves are very subject to this singular disorder, the cases which are about to be related will amply prove, and together with those of other writers, must remove every loop upon which a doubt could be hung. And there can be as little doubt that it is a *special, determinate*, and *well defined disease*—an irritation of the spinal nerves at their roots; sometimes idiopathic, at others symptomatic—existing alone, or conjoined with other disorders of the body, and frequently having a powerful and extensive control over them, and producible by specific causes. The location and the treatment of this disease, show that irritation of these nerves may and does exist independently of any connection with the cerebral or ganglionic nerves. Its symptoms are different from those of apoplexy or amaurosis, unlike those of paralysis or tetanus, and vary essentially from those which designate either an *inflammation* or loss of function of any nerves. In this condition of *irritation*, the functions of the spinal nerves are only *disordered*, not *lost* or impaired. Their peculiar powers, in many instances, are rather increased in intensity, than diminished.

The anatomical connection of the ganglionic, with the spinal system of nerves, the one depending apparently for its existence upon the other, fairly justifies the inference that the latter being diseased, the former *may be* also, and its irritation be evinced in the organs supplied by it. We shall find many instances in which pressure upon the vertebræ will produce disordered action of the heart, stomach, or some other organ, directly under the ganglionic, and independent of the spinal influence. How can such pressure develope such symptoms? We cannot believe by the mechanical disturbance of the ganglia themselves, as they cannot be considered as within reach of the pressure; but by the increased spinal irritation being passed by reflection through the ganglionic masses, likewise affected.

I cannot avoid alluding to the belief that practitioners do not sufficiently bear in mind the controlling influence which a derangement of these nerves has often over the appearances of disease of other organs. If they will but recollect the extensive and commanding direction which this and other systems of nerves have over all the other functional actions of the economy, they must see that any accident happening to them, or one of them, will, *pari passu*, affect the health of one or more of those functions. When a derangement occurs in the functional action of any organ, whether circulatory, respiratory, chylopoietic, cutaneous, or muscular, it must have had its commencement somewhere; and if it has been sudden and extensive in its access, and is constantly varying in its symptoms, we have powerful reasons for placing the origin to the credit of the spinal system of nerves; and he is recreant to his trust as a physician, who overlooks this unequivocal source of disease, which, notwithstanding its Protean forms, is so easily reduced, and by the removal of which the entire aspect of the, apparently, most severe, dangerous, and even long standing affections, may be, in a very short period, totally changed for the better.

But to proceed to a more definitive description of this singular disorder. As it appears under a great variety of aspects, some cases differing very essentially from others in general appearance, a correct view of it may perhaps be more easily given and understood, by a relation of a few of the more striking cases which have fallen under my notice. I have observed, however, that almost all the cases present some appearances which may be considered as approaching very nearly to the rank of diagnostic symptoms. They are sometimes seen in a very diminished degree, and occasionally are entirely wanting, but a majority of the cases which I have seen, have possessed them, at some period or other of the disease.

One of the most striking features, as may be observed, is the close similitude borne by this, in appearance, to other acute diseases. And herein lies the net, in which the unwary practitioner is very likely to be caught, and in whole meshes. I have no doubt many a skilful man has been entangled — whence a little deeper reflection as to the probable origin of unaccountable symptoms, might have liberated him. Having been thus puzzled myself and seen others placed in the same predicament, and having of later days frequently extricated myself and my patients from difficulties before unaccountable, by the most simple remedies, I may be permitted to use these expressions.

Cases of various disorders are frequently related in the Journals, which appear to defy the most skilful applications, whose symptoms are attributed to a variety of causes, either intestinal, muscular, or generally something equally obedient to treatment, — and yet unaccountable, after an obstinate resistance. Still I find in the relations no attempt to discover the very probable cause of many of them in the spinal nerves. For example, a striking case of this kind is given in pages 36 and 37 of the No. for August, 1836, of the U. S. Med. and Surg. Journal, copied from a foreign periodical, wherein many of the most prominent characteristics of spinal irritation are mentioned — undoubtedly the cause of the erratic pains so strongly noticed; "puerperal neuralgia" even being the title of the case. And yet no attempt is made to trace the neuralgia to its source; but a medicinal treatment of pills, powders and potations, of a fortnight's duration, takes the place of one or two applications to the spine, which would in all probability in two days have relieved the patient of her pains.

Cases very similar to this have fallen under my own care, and I have been surprised to observe how frequent has been the occurrence of spinal irritation in puerperal women.

Case 1st. — One case in particular, I at this moment recollect, that of Mrs. P., who within a fortnight after parturition, was seized with distressing pains all over the body, conjoined with such feelings of prostration and lassitude, that she was unable to assist herself in the smallest matter, even to nursing her infant. Applying to the spine for information, I found great tenderness along its entire course, pressure increasing the rheumatic feeling in different parts to an intense degree, and leaving this effect for a long time after the pressure was removed. A long blister over the vertebræ relieved the pain and debility immediately; they returned in a partial degree afterwards, but finally, gradually disappeared without farther application.

Another prominent symptom in most cases, is *exalted sensibility of the skin*. This is so frequent and well marked, as to have invited its classification as a *diagnostic* of spinal irritation, yet I am not fully prepared to adopt it as such; further observation is requisite prior to such a step. It is however, so frequent and prominent a symptom, and as far as I have seen so peculiar to this state of the spinal nerves, that whenever it does exist, there is immediate ground for suspecting the existence of the disorder under notice. Its detection is very easy. The finger cannot touch the skin of the patient at any point within the range supplied by the diseased nerves, without eliciting a marked expression of uneasiness and pain; so sensitive is it sometimes that the attempt to lay the finger on the pulse excites the same sensations. And yet *manipulation* is requisite in many instances, to develope this condition—for the pressure of the clothing, or of the body on the bed, does not evince it.

Another circumstance frequently observed in connection with this disease, relates to the *intellect*. Individuals who are naturally of a bright and cheerful mind, under its influence, become dull, and inanimate, and lose their mental energies, while the sensibilities of body, as well as of mind, are benumbed, unless roused into action by the nurse or medical attendant.

This circumstance is principally, and perhaps only observable, when the cervical portion of the cord is the seat of the affection, and then it will require but a moderate extension of the imagination to suppose the medulla oblongata to be similarly involved, and this symptom is accounted for.

Again, as one of the most prominent symptoms, of this disease, we almost invariably discover a peculiar *lassitude of the whole body* disabling the patient from the least exertion, and rendering him careless and unconcerned of important matters. There is a desire to be continually in a recumbent position; he lies in bed upon his back, and the least motion seems to cause uneasiness, and often positive pain.

Finally, there is the symptom which may be considered as the *test* of the existence of this peculiar disorder, viz. *tenderness of the vertebræ upon pressure*, with a simultaneous pain in the anterior part of the body, at the distal extremity of the nerves, which are irritated by the pressure. Connected with this tenderness, it will be observed, that at the diseased part of the column the vertebra appears to yield a little to the pressure,—to sink in between the adjacent bones, while at the sound parts, the vertebræ are all stiff, and unyielding to the strongest pressure. It will sometimes, though rarely happen, that a case will present most of the peculiar symptoms here noticed except this last—cases in which this test of tenderness only is wanting to convince us of the existence of the disease. There are many reasons to suppose that irritation of the spinal cord may be present when it is not evinced by this means, and counter irritation will be found frequently of as much service where tenderness is absent as where it is present. These, as far as my observations have extended, constitute, the most important of the general features of spinal irritation. Each case will present, *usually*, something different from all others; for the phases of nervous diseases are innumerable, terminable only with the opportunities for their exhibition.

The two following cases of this disease, in its idiopathic form, present most of its peculiar marks in a very prominent degree.

Case II.—Extensive implication of the cord, simulating pleuritis and rheumatism; morbid sensibility of the skin. Cure by counter-irritation.—On the 29th Jan. 1836, I was called to see Hester M——, æt. 32. She complained of very severe pain in almost every part of her body. Her whole head felt painful and tender; even the eyes were so sore, she could not press them with the finger. In the shoulders and through the chest sharp pains were constantly felt, somewhat resembling pleuritis, though the pain was not increased by a deep inspiration. When I laid my hand on her shoulders, or pressed the clavicle, even with the weight of the finger merely, she winced and shrank from the touch. In the gastric, hepatic, and splenic regions, the pains were the same, and very closely simulated a high state of acute inflammation of the organs beneath. In the lumbar region also, as far down as the hips, inclusive, the pains existed, and occasioned severe suffering in walking. From the shoulders, the pain extended down as far as the elbows, but no farther; nor did they go lower than the hips. Conjoined with the sense of deep seated pains in all the parts enumerated, there was a peculiar tenderness in every part of the cutaneous covering of these places, so great that the patient would shrink from apprehension if the finger were pointed near her, and expressed great suffering when she was touched, though lightly. As there was no symptom of fever or other constitutional disturbance, and the tongue was clean, and appetite good, the diagnosis was at first very puzzling; but the thought crossing my mind, that these anomalous symptoms could only be referred to some morbid condition of the supplying nerves, I directed my inquiries to the spine, and immediately detected the origin of the difficulty. Upon pressing with the fingers along the spine, commencing at the neck, all the painful feelings of the patient were instantly aggravated, as the fingers came opposite each successive part. All the pains, deep-seated and superficial, were increased to an agonizing degree by the pressure on the vertebræ, shooting through and around from the spine forward. The skin covering the spinal column, appeared also to participate in the general tenderness. It was about a week since the patient became indisposed, gradually growing worse. No satisfactory cause could be ascertained for the disorder.

The indications were plain, and the treatment simple. Two dozen cups were directed to be placed along the course of the spine, upon each side from the neck to the sacrum. The application was made in a few hours, and before the operation was half done, Mrs. M. experienced very great relief, and at the close of it she was entirely free from pain; and with the exception of the debility consequent upon the disease and the remedy, was as well as ever. On the following day she was entirely well, and my visits were discontinued.

Case III. — Extensive and protracted irritation long mistaken for other diseases; cough, obscuration of the intellect; morbid sensibility of the skin. Cure by counter-irritation. — Mrs. Terry, of No. ——, Stanton-st. was first seen 23d Feb. 1836. She is of spare form, delicate looking, and of slender constitution. Has had poor health for four years back, not having passed a fortnight at a time in the enjoyment of robust health, and freedom from pain during that period. She is 26 years old, and has had four children. Almost the first symptom of disordered health which she recollects to have felt, was a heavy dull pain through the hips, which she said felt very much like early labour-pains. Commencing with this, a variety of symptoms followed of the most strange and unaccountable kind, gradually increasing in number and severity, the patient being overcome, at times, with a feeling of great oppression, and, at others, suffering torturing pains. She had tried various modes of treatment, and pursued them all to the fullest extent, with the vain hope of finding relief. One respectable physician informed her that her lungs were seriously affected; that she had only a portion, about the size of a dollar, left that was sound, and put her upon a course of medicine, what she does not know. Another told her she must *ride*, and she spent several dollars in patronising the Dry Dock stages, and many more in country jaunts. Another bled her five times in as many days, "almost to death," as she expresses it. Another salivated her, presuming on the "*liver complaint*," but all to no purpose, as each method left her worse and more debilitated than it found her.

Several times during these four years, she has had amenorrhœa, which has lasted from three to eleven months, variably, and she is now free from the menstrual flux three months, without any other symptom of pregnancy. She had, to a very high degree, the peculiar symptom noticed in the preceding case, viz. tenderness of skin; this had been present in this case a very long time, and was now very acute, feeling like the exposed sub-cutaneous surface of a blister; all parts of the body except the extremities, presented this symptom, and when pressure, however slight, was made with the finger on any part, especially over a bone, the patient would cry out, and shrink away. Mrs. T. had, also, a hard, dry, hacking cough, which had troubled her for a long time, unaccompanied by any other symptom of bronchial inflammation. On account of the great tenderness of the skin, no pressure could be made on the abdomen to ascertain the condition of the viscera within, except occasionally, when this tenderness would be lessened, at which times, pressure would evince apparent severely acute inflammation beneath. She felt almost continually, deep-seated, obtuse pains in this and other regions. Another striking symptom noticed in this case, on one day particularly, was *drowsiness*, the patient having an uncontrollable desire to sleep all the day, falling into a slumber while conversing, her eyelids dropping without resistance. This was the more remarkable, as she possessed naturally great vivacity of disposition. Her appetite was not deficient, and her bowels were in good order. With all these distressing symptoms, I at no time, observed any particular increase in the frequency or force of the pulse, or other febrile appearance. Sometimes she would feel a fluttering of the heart, but no other circulatory affection.

I turned my attention soon after being called, to her spine, and immediately discerned the seat of the difficuly. The slightest pressure of the finger upon any part of the vertebral column, aggravated the symptoms in the corresponding parts in front; and when firmer pressure was made, the pains both in the back and in front, as they darted around and through, became insupportable, and she would sink back exhausted.

I at once advised the application of cups to the spine freely; she very reluctantly yielded to this, fearing she would be unable from her debility, to endure the operation; a dozen, however, were applied, extending in a row, from the neck to the sacrum. On visiting her the day following, I found the operation had been well performed, and the patient was like another person, almost every symptom being greatly alleviated. The cough, however, was the same, and the cuticular tenderness only partially removed. The patient was more animated, and expressed herself much better, with hopes of recovery, which before, she had despaired of. But I was disappointed upon visiting her at the end of two or three days, to find the disorder almost as bad as at first. The application of a blister was then made, both over the lumbar and cervical vertebræ, though with much opposition from the patient. These had the desired effect, for on the morrow, I found her free from all pain, except that of the vesication, and only keeping her bed from the debility attendant upon the long illness she had gone through. Her cough had entirely gone; she could bear firm pressure anywhere without the slightest uneasiness; her drowsiness had entirely disappeared; and, in the course of a few days, when the blistered surfaces had healed, she was as well as ever, and better than she had been for four years.

The next case is one in which the transitory and evanescent nature occasionally assumed by this diseese, is presented.

Case IV.—Mrs. G. C. seven months pregnant, sent for me, March 9th, 1836, in great haste: on arriving at the house, I found the patient well, and just recovered from a violent pain, resembling a cramp, in the region between the umbilicus and epigastrium. It had lasted about two hours, had come on suddenly, was very severe, and had left her suddenly a short time before I saw her. I prescribed nothing. On the following day, she sent for me again in the morning, complaining of urgent rheumatic pain in the knees, (particularly the left) and in the left shoulder, with sour stomach, and occasional nausea. I immediately made pressure on the vertebræ. Commencing at the neck, strong pressure of the fingers was made upon each spinous process successively, as well as upon the sides of the vertebræ, but no pain was elicited and the bones were firm and unyielding to the force applied, until on arriving at about the sixth dorsal, the weight of the finger could scarcely be borne; great pain was produced, with nausea of stomach, the pain darting through the body and scapula when pressure was made, and the vertebra seemed to yield a little under the fingers. Immediately above, below, and at the sides of this vertebra, very little tenderness was produced by pressure. Proceeding downwards, no more pain was produced, until arriving at one of the lower lumbar vertebræ, the same phenomena were produced as above, except the nausea, and the pain darting through the hips. The patient had the choice of cups or blisters; she preferred the latter, and one four inches square was applied over each affected vertebra. They vesicated handsomely, the symptoms were all immediately removed, and did not recur.

The following presented the most alarming assemblage of symptoms that I remember to have seen in this disease, and presents a very instructive lesson respecting the circumspection necessary to arrive at a just conclusion in deciding upon the nature of a disease. It was evidently, as far as any appreciable cause could be discovered, an idiopathic case.

Case V.—Sudden access of the disease; great and rapid prostration, approaching collapse.—Mrs. G. L. was first seen Oct. 5th, 1838. She had risen in the morning after a good night's rest, without any disordered sensations, but when about getting breakfast, she complained suddenly of feeling sick, with nausea, slight vomiting of bilious matter, great tenderness of the abdomen, with slight flatulent tumefaction, soreness over all the trunk, but particularly severe pain in the epigastrium, continual, and much increased on pressure. The lower part of the spine bore the pressure of the fingers well, but as they advanced towards the upper dorsal vertebræ, tenderness began to be felt, and between the scapulæ, the touch of the fingers became insupportable. The slightest pressure sent tingling pains through the whole front of the body, aggravating to an intolerable degree the agony of the abdomen. The pulse was upwards of 100, and very small, but soft; the tongue somewhat furred, but moist; the skin soft. The hands felt cold; and the patient complained at times of chilliness of the body, except the abdomen, which felt hot. Her face had assumed a blanched and somewhat cadaverous aspect; the eyes had sunken, and the nose become contracted. There was no action of the bowels; she could move with great difficulty in bed, and felt an astonishing degree of prostration. Such were the appearances presented on my first visit, about three hours after the sudden seizure.

The great tenderness of the spine, and the communication between it and the pain in front, were certainly strong reasons for supposing the disordered symptoms to be dependent upon this cause; and yet the vomiting of bilious matter, the extreme tenderness of abdomen increasing at intervals, the sunken countenance, the cold extremities, all made me hesitate in my decision whether the spinal cord was primarily affected, or whether its irritation was consecutive to derangement of the primæ viæ. The *suddenness of the attack* inclined me to the latter opinion, as it was difficult to reconcile my previous ideas of spinal irritation with the progress of the case before me, there being no cause whatever to which to attribute it; and it is well known that disordered stomach and bowels arise spontaneously, so far as the presence of any *known* cause is concerned. Thinking, therefore, that some ingesta might have produced these difficulties, I administered 10 grains of proto. chlor. hyd., to be followed in an hour by a scruple of ipec., with two grains of tart ant. Six hours after I saw her again, and found that the emetic had operated slightly, but without any good effect, as all the symptoms, except the nausea, had increased in severity, and the general appearance of the patient was decidedly worse. She lay upon the edge of the bed unable to move, the abdomen more distended and exceedingly painful; the countenance more cada-cadaverous, and the pulse 140, and very small. The excessive pain in the abdomen suggested now the existence of peritonitis, though the absence of a corded state of the pulse, and heat of skin, were opposed to that. The tongue was now very dry and dark, the thirst great, the breath was cold, and the spine more and more tender.

I took from the arm about four ounces of scarlet blood; the patient nearly fainted from this, though in a recumbent posture. A dozen leeches were applied to the abdomen, which bled freely. No beneficial result followed either of these operations, except that I thought the pulse became rather more free and full; it was still 140. A consultation being now requested by me, we came to the conclusion, after a minute examination, that as some of the more prominent symptoms of peritonitis were absent, and there appeared to be much irregularity in the pains, the latter must be chiefly of a neuralgic character, and that counter irritation over the spine, with an opiate, would be the proper course. A blister was, therefore, placed over the dorsal vertebræ, a scruple of pul. Dov., and one grain of camph. administered, a slightly stimulating enema ordered, and she was left for the night, with directions for me to be called if any further prostration should occur before morning.

6th. Found the lady in about the same condition as last evening; the blister had created considerable irritation, but no vesication. The powder had been partly rejected; the tongue was very dark and dry, and a little sordes was seen upon the teeth; the pulse was about 130. Prescribed liq. ammon. acet., with tinc. opii.

P. M. Has improved somewhat; head feels a little heavy and dull, probably owing to the opium; gave digitalis instead.

7th. This morning the patient is much improved. The blister has vesicated freely. Pains in the abdomen have diminished, but pulse is still very frequent. Bowels being constipated, ordered ℥j. ol. ricini.

8th. Oil operated freely, and this morning Mrs. L. presents a very improved appearance; her pains have materially diminished, but the pulse is 120. Tongue is moist, but still darkly coated.

9th. This morning I find rather a retrograde course in the disease. Much pain is felt in the head, with stupor, and uneasiness and soreness in the body generally. Examined the spine above and below the blister, and found it tender in nearly its whole extent, and the disorder in front, particularly in the head, aggravated by pressure upon it. Directed cups to be applied to the nape and loins. This application was soon followed with more substantial relief. The strength began to improve, the pulse diminished in frequency, the pains subsided, the aspect of the countenance improved, and with the aid of mild remedies, and an occasional purgative, at the end of nine days from my first visit my patient was thoroughly convalescent.

The next case, simulating acute rheumatism, gives an instance, like case 4th, of the confinement of the primary irritation to a small part of the medulla.

Case VI. — *Simulating acute Rheumatism. Cure.* — Mrs. Gray of S—st, sent for me in September, 1836, complaining of a most intense and insupportable pain in the head, confined chiefly to the left side, involving the temple, eye, ear and occiput. It was felt, though in a less degree, and only occasionally, in the right side. The left eye felt as if it were bursting from the socket, and the distressed patient could not move the head without almost fainting with the agony. Being of a very delicate habit, and the pulse being very weak, I was deterred from V. S., which was first suggested to my mind. The pain very much resembled acute rheumatism, and was thought to be that by the patient, and soothing applications being indicated, I gave directions for an application of a warm hop poultice. But while this was in the course of preparation, the spinal nerves were suggested to my mind as, probably, being the cause of the difficulty, and I requested Mrs. G. to turn her head to one side, laid my finger on the cervical vertebræ, and immediately the starting and exclamation of the patient, revealed the source of all her trouble. The pain in the eyes, and in the whole head, was, if possible, aggravated, and this occurred as slight pressure was made upon each of the spinous processes, as far down as the fifth. Thus assured of the nature of the disorder, the remedial course was at once plain, and the application of half a dozen leeches to the nucha, gave such relief in half an hour that my patient slept for the first time in several days. On the following day very little pain remained. A blister was placed over the leech bites, which drew well, and gave still farther ease. In three or four days she was entirely well.

The following case shows the possibility of this affection occurring in a youth of ten years of age, *simulating various affections, and of an obstinate character.*

Case VII.—Rowland R—— was first seen on the 3d of May, on account of a considerable febrile reaction, connected with pain in the epigastrium, increased on pressure, with the tongue thickly coated and very dirty white. He had been spiritless, and void of his usual activity, for a considerable time previous, as was represented. A sinapism was applied to the epigastrium, ten grains of calomel administered, followed by an aperient, and in two or three days he was essentially relieved. About a week after, however, he was confined again to his bed by an attack of rheumatic pain in the right knee and foot, which obliged him to keep the limb in one position, though it made it ache worse; he could not bear it to be moved. His tongue was also foul, and his complexion slightly icterode. Upon touching the lower vertebræ rather forcibly, an increase was given to the pain in the knee and foot, and a good deal of pain was felt in the vertebræ, which was not before noticed there. Nine leeches were applied over this part, which were followed by almost immediate relief of the extremities. Some remains of the pain were felt the next day, which a blister entirely removed.

A few days elapsed, during which the patient remained under treatment for the remaining hepatic and gastric disorder, when a good deal of pain was felt in the regions of the stomach, liver and spleen, upon which he could not bear to be pressed. He could not turn himself in bed, and whenever he attempted to lie down he would almost invariably spring up again suddenly, and cry out as with a severe pleuritic pain. This was felt also upon making a full inspiration. All these symptoms, combined with the burning heat of his hands, his restlessness, and sickly appearance, gave a great deal of anxiety to his excellent family, and it was with much difficulty that I could prevail upon the parents that my view of the case was a proper one, and that their son was not so sick as they supposed. I had examined the spine, and there detected the seat of the disorder, and upon my expressing my willingness to stake my reputation for accuracy of judgment upon the issue, (a thing, by the way, which I seldom or never do, even in the plainest cases,) they consented to the application of a row of cups from the neck downwards to the edge of the blister before applied. The application was made in the P. M., and, according to promise, in the evening no other pain was felt but the soreness of the incisions. He could turn without difficulty, and lie in any position, and slept quite soundly in the night.

July 7th. Soon after completing my last visits, my young patient became troubled with headache to a severe degree, which continued incessantly. This commenced about a week after the cupping; and in a few days after this he was seized with torticollis, together with sore throat. These were presumed to be caused by an ordinary cold, and were treated with the ordinary applications, but no relief followed. Presuming at length that these symptoms might be the remains of the old affection, with a change of locality, I made pressure upon the cervical vertebræ, and immediately all the pains were aggravated, even the soreness of the throat. (I should have observed that no redness of the fauces sufficient to account for the soreness, could be seen.) The application of the antimonial ointment was now urged, principally because the patient objected to any further use of blisters, cups or leeches, which latter I should have preferred.

The ointment produced a copious crop of pustules, which brought considerable alleviation to the pains, but not so much as I had anticipated. After pursuing this course two or three weeks, and a fair trial had been given to it, recourse was had, under the direction of a consultation, to the repeated application of leeches to the cervical vertebræ. Half a dozen were applied every three or five days for a fortnight. He then being somewhat improved, went into the country, where, under the advice of a physician, blisters were applied alternately to the nape and arms, in rapid succession. This was continued a week or two, and the patient gradually improved, so that at the latter end of September very little of the distortion remained; and his general health was very greatly benefited.

DIAGNOSIS.—Doubtless this more modern seat and source of disease is well understood by almost every intelligent practitioner, and one who has the welfare of his patients honestly at heart, and does not deem it a trouble to probe every possible quarter for information, will often discover the spine to be the unexpected location of disorder. Many a physician has probably met with a case similar to the first cases here recorded, in which the diagnosis is very plain; in which the spine would be the first thing to attract the attention in looking for a source for the symptoms. Such cases, I repeat, are very simple: and with them the acute physician loses no time either in his diagnosis, or his proper applications for relief.

But there are disorders, and the number is by no means inconsiderable, of an apparently well defined and decided character, in which an implication of the spine would not be suspected in the most remote degree, and yet which may be found upon inspection to have an important and decisive influence over the symptoms as they exist. As has been already said, the symptoms of spinal irritation bear so remarkable a similitude to various local diseases, of an inflammatory or other character, it may be deemed not improper to recommend in purely medical cases, as a universal rule, to ascertain as far as practicable the condition of the spine. Nothing is more common or more proper for a judicious practitioner, in whatever disease, to inquire of his patient the condition of his abdomen, of his chest, or of his head, and indeed of all of these; and this information is sought even where there is no direct reason to suspect either to be particularly involved in the train of disease. We all know well that a deranged condition of these parts may exist without any positive indication thereof being given; and the apprehension that such may exist is the inducement for the practitioner to push his inquiries to the utmost limit of investigation. How often do we find upon inquiry, the brain to be affected in instances of pure disorder of the primæ viæ, and which, *a priori*, would not have been suspected; and where an application to the head, though perhaps having no direct effect upon the original seat of disease, gives material relief to the patient. A dull pain in the cerebral organ, or a partial obscuration of the intellect, or of the senses, of which the sick person himself would have no suspicion, its access having been very gradual and no acute sensation being felt, is often brought to the knowledge both of patient and physician, by the well directed inquiries of the latter. This case is too common to require illustration. Then bearing in mind, the prominent peculiarity of spinal irritation, that its effects are felt in parts at a distance from their origin, and seldom, *if ever*, in the part affected; and also that the spinal cord has as close a connection with, and influence over, most of the organs of the body, as has the brain; that its structure and functions are in many respects identical with those of the latter organ; that it is liable to many of the same diseases, and as obnoxious to sympathetic irritations, have we not irresistible reasons for asserting the insufficiency of a report which omits all notice of the spine? and can any one, in *any* case, be satisfied with his diagnosis, without a thorough examination of it?

Again, if this position is true, or even only plausible, with respect to adult patients; if we are bound carefully to pursue this course with those who may be able to communicate orally all they feel, but who would never suspect the spinal cord to be the source of many of their disordered sensations, the obligation comes upon us with increased force when treating those of more tender years, and especially infants, with whom a diagnosis is very often so particularly difficult and uncertain. The following case is a very clear example of this.

Case VIII.—Spinal Irritation occurring in an Infant.—Efficacy of Croton Oil as a counter-irritant.—The infant child of Jno. H. was observed, when a few weeks old, to be afflicted with some disorder which caused it to keep up a long continued and violent screaming, accompanied with great restlessness, wakefulness, and other symptoms of severe suffering. No apparent cause could, at the general view, be discovered to account for a difficulty so great, as the child had always been hearty and good conditioned, and nothing but its natural food could have passed into its stomach. The spine upon examination appeared to be the seat of the difficulty, as the slightest touch of the finger seemed to increase the restlessness and screaming.

Two or three drops of Croton oil were rubbed upon the back, along the spinal column—a copious crop of pustules was produced, and very soon relief, permanent relief, was given to the little patient.

A case reported in the Edinburgh Medical and Surgical Journal for January, 1833, is so remarkable and so much to the point that I cannot avoid extracting it.

Case IX.—Patient, an infant; convulsions and other se-

vere symptoms. Cure by counter-irritation; inefficacy of other treatment. — A child, aged four months, and apparently healthy, was attacked with more frequent fits of crying than usual, particularly at night. At the expiration of a week, with the fits of crying, there was an evident sense of suffocation for a moment, but as soon as the child cried freely, this affection disappeared. At the end of two months, respiration was now not only further impeded for six or eight seconds, but attended with a squeaking or stridulous noise, which resembled sometimes the crowing of a cock, and which always terminated by crying. For several weeks little alteration was apparent, till at length a new symptom supervened, in the form of a convulsive affection of the hands; the thumb was drawn into the palm of the hand, whilst the fingers were stiff and extended, or rather reflected, or thrown somewhat backward. Convulsions of a general character soon followed, which occurred, for a month, once a week, afterwards came once a day, and soon after, twice a day for three months. These (the general convulsions) were preceded by the above symptoms, which terminated by a strong expiration and crying for a few moments, but instantly after the child stared as if frightened at something; the pupils became dilated, and in a few moments the eyeballs became somewhat distorted and fixed; the head and shoulders thrown back; the face purplish or blue; the whole body stiff, and on the stretch, and respiration suspended. But in a short time the spasm abated; the face became pale; there was moaning for a while, and afterwards sleep. During the whole of this time, emetics, calomel, anti-spasmodics, &c. were given with little or no good effect. The circumstances of the child not using his legs as much as was expected, at length led to an examination of the spine, and on pressing the third or fourth dorsal vertebra there was always cringing and crying; there was neither deformity nor discolouration of the skin. Four leeches were applied. This acted like a charm; no return, except a slight one, a few hours after the application of the leeches. In two days the leeches were repeated. The child has passed through teething, and is now eighteen months old, without any return.

The importance of early ascertaining the origin of spasmodic diseases in children, which may have their cause in irritation of the spinal cord, can scarcely be overrated, when we recollect that spasmodic affections, at first trifling, may terminate in confirmed epilepsy; and that in many cases of confirmed epilepsy, the only morbid changes observable after death, are ossifications, or cartilaginous, or tuberculous depositions in the cord or its membranes, and the origin of which was, in the first instance, only irritation.

It may, perhaps, serve to throw a little light upon, and to awaken still farther the attention of practitioners to this subject, to give a glance at the disorders which, according to the observations of others beside myself, are simulated by spinal irritation; remarking beforehand that these symptoms, in each case, have very often been treated, for a greater or less length of time, as those of the simulated disease, without an implication of the spinal cord being suspected until the inutility of the treatment has been fairly proved, and the adoption of a different view of the case and course of treatment has been rendered necessary.

1. *Rheumatism*, acute, and chronic. This, I think, may be set down as the most common of the specific diseases depending upon an irritation of the spinal nerves. It has been noticed by various, and indeed by almost all, writers upon the subject. There are many cases of rheumatism, in which no trace of any spinal derangement can be detected, but as so many have occurred, it is but reasonable to suppose that others will.

Next to this may be set down *neuralgia* both local and general. Numerous cases are on record, wherein neuralgic pains of various parts of the body, many at the most remote distance from the spine, have been immediately and permanently relieved by a counter-irritant application over the spine at the origin of the nerves supplying the part affected, and this too, after repeated applications of irritants and sedatives to the part itself, have proved valueless.

2. Next in the order of frequency come *inflammations of various organs*, which sometimes assume a serous and sometimes a mucous character, according to its locality. The most frequent simulation under this head perhaps is peritonitis, and the deception is rendered in this instance more complete to the incautious observer, by the exquisite sensibility of the abdominal integuments, before noticed. As in the more severe instances of this dangerous phlegmasia, the surface of the body will not bear the

slightest touch of the finger, while the patient complains of a continual pain in the part; lies with the knees and hips flexed; the skin hot, the pulse small and perhaps even corded. But a careful scrutiny will dissipate the fears, which the case at first blush may have excited; and nothing can be, in therapeutics, more certain than the complete cure of *this* form of peritonitis. Similar remarks are applicable to apparent inflammations of the stomach, intestines, and even of the liver and pleura. I have seen instances of apparent pleuritis as clearly diagnosed by the most prominent characteristics as I have ever observed in the genuine phlegmasia, which a spinal examination has proved to be of nervous character, and which view the treatment has confirmed; thus saving the patient from a painful and worse than useless depletion, which a less careful inquiry would have deemed proper. Bronchitis likewise, is not an unfrequent simulation. I have already related an instance in which the spinal irritation evinced itself by a troublesome cough, and others I might give, were it deemed proper to eke out these pages with the recital of cases. But the confirmatory testimony of other practitioners is sufficiently abundant to render this unnecessary. The cough is not always void of expectoration, but sometimes is accompanied with a copious discharge of mucus or froth, and these, together with the deep seated and depressing pains in various parts of the chest, the tickling in the throat, accompanied as they occasionally are with emaciation and diurnal febrile reaction, must of course excite the liveliest apprehension for the safety of the patient, but which an examination of the spine, simple and easy as it is, may dissipate in the sunshine of joy.

Case X.—A striking case of this kind is related by Dr. Parrish, as communicated to him by Dr. Jackson.

The patient, a young lady of delicate constitution, and nervous temperament, had been troubled for a year with a dry hacking cough, with dyspeptic and nervous symptoms. She was much emaciated, and supposed by her friends to be in a confirmed consumption. No organic disease of the lungs could be discovered; but the symptoms becoming still more alarming, and unable to discover the cause, the Dr. "in the course of a *few weeks*," was induced to examine the spine, where the whole cause of the distressing symptoms was found to be located; the remedial applications made to this spot, in a few weeks produced a perfect restoration to health.

I may add that in genuine phthisis, the spine will often be found tender on pressure, and there is no doubt that many of the painful symptoms accompanying this disease are dependent solely upon medullary irritation, and relievable by counter-irritant applications to the back. Very few of the cases which I have seen have been unaccompanied by it; and it would be surprising, if in a disorder in which the secreting action of so extensive and important a surface as the pulmonary membranes is so much deranged and diseased, that one of the great nervous centres which control the operations of this function should not be itself disordered, and some degree of irritation produced in it.

A reciprocal disordered action is probably carried on between the functions of these two important organs. The pulmonary tissue may be the original seat of disease, and the spinal medulla be secondarily affected, many of the painful symptoms being dependent upon the secondary disorder. Or, as in Dr. Jackson's case, the spine may be the primary seat of disease, and the pulmonic symptoms consequent upon it. The latter, of course, presents the more favourable pathological aspect.

Laryngitis too, is often very accurately simulated. An instructive case is given by Dr. Corrigan, in which the symptoms were so decided, that he at once pronounced it a case of acute laryngitis, but observing in his examination that the patient had lost sensation of the skin below the epigastrium, his attention was directed to the cervical spine, where he found the cause of all the bad symptoms, and a rapid recovery was the result.

One would suppose that no disease could be more distinguishable by its physical signs, than *opthalmia*, the true inflammation of the eye, and that the proper treatment, by cups, leeches, and blisters to the temple, and topical applications to the organ itself, would be indisputable; and yet we have well authenticated cases wherein this disease, well marked in most of its peculiar characters, after having resisted all the usual curative means, has been found dependent upon irritation of the cervical portion of the cord, and has been dissipated by one or two blisters over that part.

Passing by affections of an inflammatory nature, with these brief remarks, we shall find the next most frequent series of complaints to be of a *functional* character. Every physician meets with instances of symptoms in various organs, of functional disorder, which he is unable to trace to any organic derangement of the viscus which appears to be affected, and sometimes he finds a single symptom, entirely isolated, which renders the patient miserable in body, and the physician almost equally so in mind, for he can neither trace it to a cause, nor find a remedy for it. There is scarcely an organ in the body whose functional operations are not sometimes disturbed in a greater or less degree, and that without the least degree of organic disease, and dependent wholly upon some derangement of the supplying nerves at their origin. Connected with the *stomach*, we find nausea, and sometimes vomiting, foul breath, loss of appetite, or morbid appetite, impaired digestion, apparently confirmed dyspepsia, various degrees of oppression or pain, acid and other eructations, and, in fact, every kind of derangement of which the complicated process of gastric digestion may be susceptible from other causes.

In the *intestines* we meet with constipation, colic, flatulence, borborygmi, and many other evils to which these parts are liable, all traceable to a tender spot in the spinal column. Renal and vesicular disorders are frequently noted as ascribable to the same cause, and remediable by the same means, without the aid of internal medicines.*

Of functional disorders of the internal organs, there are none more frequently met with perhaps, than those of the *centre of the circulation*. Cases upon cases are recorded of disorders of the heart, attended with severe palpitations, anormal sounds, &c. which continue for a long period, and being supposed dependent upon organic derangement, are treated with the remedies usual in such a condition of the organ, but which defy them all, and which, indeed, grow worse oftentimes under their administration, are then discovered to be of medullary origin, and yield readily to the proper applications. The symptoms of disease in this organ sometimes assume very curious features. The palpitations are generally of short duration, though they may be of frequent occurrence. Sometimes, after beating furiously for a few minutes, a change of position will cause the heart to be perfectly quiet, and the paroxysm will be over, and, perhaps, not be renewed for several days or weeks.

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* A writer in the American Journal of Medical Sciences, maintains that the primary cause of *vesicular calculi* may be ultimately traced to disease or injuries of the nervous system, quoting Wilson Philip, that in all cases of spinal irritation the kidneys secrete an abundance of sabulous matter. The writer adds: "In tracing the history of calculous diseases, you will be informed that the existence of the disease is preceded by pain along the course of the spine. We are aware that this symptom has been attributed to irritation of gravel in the kidneys, but we positively know that spinal irritation is accompanied by pain in the back, neuralgic pains shooting down the thighs, and that this disease will cause an abundant secretion of calculous matter; why not then refer the pain to the same rational source?" Vol. xx. pp. 163 and 164.

Dr. John Marshall relates a well marked case of diabetes, which after long resisting other treatment, yielded to counter irritation over the spine, and by which the secretion was changed from saccharine to saline.

Case XI.—Probable irritation of the ganglionic nerves.—I have been sent for several times by a lady, in great haste and trepidation, on account of a violent action of the heart, exciting apprehensions for her life, which would seize her in the midst of the quiet performance of her domestic duties. I have found her, although arriving in a few minutes, lying flat on her back, and perfectly easy, the palpitations having ceased almost immediately after assuming that position. I have never had, in consequence of the short duration of the paroxysm in this case, an opportunity of auscultating the heart during the paroxysm, but am satisfied, from the attendant circumstances, that the disorder was of purely nervous character and origin, and, probably, owing to some irritation of the spinal medulla, or, perhaps, of the ganglionic nerves.

Of other disorders affecting the respiratory or circulating apparatus, *asthma* and *angina pectoris*, especially, are unquestionably often dependent upon an irritated condition of the spinal nerves. That the former of these is owing in many, perhaps in most instances, to organic derangement, cannot safely be questioned; but it would be equally unwise, in the face of the numerous recorded cases, to doubt that it may be a purely functional disorder, having its primary seat in the supplying nerves, or the medulla itself. This being admitted, the reason of the failure in numerous examples of the diverse remedies applicable to the true asthma will be perceived; for although the respiratory function is the seat of its exhibition, the true disease lies in a distant organ, and to the latter the curative measures must be directed. Similar remarks are applicable to *angina pectoris*.

Of disorders of the muscular system, the most marked, attributable to whatever cause, is *Chorea St. Viti*. This is one among many other diseases whose pathology has always divided the sentiment of the profession. No one theory has probably, united a greater number of minds upon this subject than that of Dr. Hamilton of Edinburgh. And yet those who have had much experience in its treatment, must acknowledge his ultraism in attributing every case to a disordered or overloaded state of the primæ viæ. That this is a fruitful primary cause of this disease may be true, but even then it will be difficult, if not utterly impossible, to trace the connection of the cause and the effect, so remote from each other, unless through the highroad of the ganglionic and spinal systems of nerves. Admitting, therefore, the cause of this disorder, occasionally to be that assigned by Dr. Hamilton, we must still believe the ultimate affection to be produced by an irritation of the nervous system, and this secondary cause may continue in operation after the first has been entirely removed; and then where is the cure? evidently in remedies addressed to the nervous system.

Sometimes the disease is undoubtedly dependent upon uterine irritation, and in this case the same chain of morbid associations must exist as in the former case, the first link only being altered. I will relate but one case upon this subject, but in it the associations appear very clear.

Case XII.—St. Vitus's dance from spinal irritation; amenorrhœa; cured by counter irritation and tonics. —On the 22d March, 1837, I was called to see Hannah T. aged nearly 14 years. I found a strongly marked case of St. Vitus's dance, the whole body being affected with it, even the muscles of the mouth and other parts of the face. She had been labouring under it about six weeks, and it commenced with a loss of power in the lower extremities. She complained of much pain in the epigastrium and abdomen. She has never menstruated, although her mother did at 12 years of age. I found the spine very tender, and the pressure on it gave considerable pain in the abdomen. Some pain also was given to the head by pressure upon the cervical vertebræ. She was cupped along the whole course of the spine with a great deal of benefit. A day or two afterwards I administered a strong dose of sub. mur. hyd. and pulv. jalap, which operated powerfully. Soon after she was put on the use of præcip. carb. ferri. a scruple "ter in die," which she took after a few days, four times a day, in wine.

April 8th. From being entirely helpless, I find Hannah able now to dress herself, help herself at table, sweep the floor, and she sits very still for a great many minutes without *any motion.* When I first saw her she kept up an incessant motion of all parts, and was not quiet even in her sleep. Now she sleeps almost all night perfectly still. She could not at first keep her tongue still when put out of her mouth, but now she can command it completely. In addition to the carb. iron, I have used over the spine a liniment of turpentine, ammonia, and tinc. cantharides.

September. The result of this case is a complete recovery. The catamenia which had appeared but once, have lately commenced and proceed regularly, and her health is in all respects improved.

Another affection of the muscular system, involuntary spasmodic contractions of individual muscles, commonly denominated *cramp*, is likewise often directly dependent upon irritation of the supplying nerves, and it may, without much fear of contradiction, be asserted to be always connected with it, in whatever manner the latter may have been produced. In diseases of the intestinal canal, probably the most frequent source of cramps, the only mode in which the muscular system can be supposed to be reached, is by the irritation being reflected through the spinal cord. In such cases the spinal medulla is merely the vehicle of the diseased impression, and no permanent influence being produced upon this organ, the cramp, which is a secondary effect, ceases with the removal of the primary cause, without the necessity of any application to the medulla. But the case is a different one when the cord is the original location of the exciting cause, or when the transmitted irritation is so severe or of such a character, as permanently to impress it with the disordered action. Then the effect of the diseased action will remain after the original influence is subdued. As examples of the latter action may be cited, tetanus and hydrophobia, which though both diseases doubtless of a spinal nature, yet are probably dependent upon a more extensive and profound disorganization of the cord than that now under consideration.

Other convulsive affections are often directly traceable to the same origin. That *hysteria* very frequently depends upon spinal irritation cannot be doubted, from the numerous well attested cases to be found in the journals; and I do not hesitate to express the belief that practitioners would very often find their advantage in addressing their applications for the relief of hysteria, and other convulsive affections, more directly to the spine, than has hitherto been the case. Puerperal convulsions, very probably, will be found more tractable to such treatment, if sufficiently energetic, than is usually the case with the more common mode.

Other local muscular disorders, such as defects of swallowing, of speech, &c., may occasionally be traced to a tender portion of the medulla.

Besides the specific diseases here enumerated, as simulated by spinal irritation, there will often be found many particular symptoms associated with other diseases, which seem to have no especial or direct connection with those diseases, yet whose presence forms a very important part of the general features of the case, and depend upon the same cause. For example, in many protracted fevers of almost every type, we frequently observe a complication of local pains in various parts of the body, which generally form the most distressing part of the patient's sufferings, and from which he seems most anxious to be released, but which applications to the part affected seem incapable of relieving. Two plain cases of this kind I will relate.

Case XIII.—Spinal Irritation, complicated with general pyrexia; the latter relieved by removal of the former.—Jonathan Kelly, an apprentice to a painter, was first seen May 25th. He had much fever, with very foul tongue, great debility, hot and dry skin, considerable pain in the gastric and umbilical regions, and throughout the abdomen generally. The attack was attributed to a fall which he had of about three yards, alighting on his feet, and giving his whole frame a severe concussion. The ordinary febrifuge remedies were administered, and a rubefacient of mustard directed over the abdomen. The purgatives, diaphoretics, &c. operated well, but the pain continued undiminished, and the debility rapidly increased. Curiosity, at the end of two or three days, led me to examine the spine, and the first touch about opposite the umbilicus, elicited the seat of the difficulty, and as the fingers were carried above and below, and the pressure continued, the young man's sufferings were very much aggravated. The affected portion of the spine terminated above about the middle of the dorsum, and below at the middle of the lumbar region. His debility and exhaustion were so great that his friends deemed it hazardous to resort to so severe an operation as cupping, and I thought he might hardly be able to bear it; but confident in my diagnosis, I insisted upon it, and the result answered my most sanguine anticipations. The tongue still continued thickly coated with dirty white, which a strong emetic had only partially removed. One dozen cups were applied, six on each side of the spine in the affected district, and "mirabile dictu," not only did the pain rapidly subside, so as to leave him almost free, but before the operation was half completed, his exhaustion began to disappear, and at the end of it he had none, and felt quite strong. He rapidly recovered from that time.

Case XIV.—Samuel Green, aged 15, was attacked apparently with continued fever, without any particular local affection. The tongue was found very dark, and thickly coated, and very dry; he had pains in the abdominal region, stomach, and lower extremities, and very severe pains, in the whole head and back; intolerance of light, great thirst, &c. Diaphoretics and mercurial purgatives were given with partial relief. The pains not diminishing, I examined the spine, and found it tender in nearly its whole course. Cups were freely applied from the upper dorsal region downward. His debility was very great, and constantly increasing, but believing it to be caused by an irritation of the spinal nerves, I persevered with the cups, and relief was very soon obtained, except in the head. His tongue improved but little, and his sight none. Upon touching the cervical vertebræ a day or two afterwards, the pains in the head were very much increased. Blisters applied to the nape were very efficient in allaying these, and the intolerance of light was entirely removed. All his pains rapidly disappeared, but his convalescence from the other febrile symptoms was tardy. In this case the irritation was caused by his going frequently into the river to bathe while overheated.

This point is a matter of no little importance in the treatment of continued fevers, and has been remarked upon by several writers. Some have gone so far as to assert the intermittent form of fevers to be dependent upon spinal irritation, and strongly urge the necessity of counter irritation over the column as an adjunct in their treatment. It is not at all unreasonable to suppose the nervous system to be the particular agent in the production of those peculiarities in the appearances of some fevers, but I would more readily suspect the ganglionic portion of this system to be principally concerned in these mysterious operations, though the probability is, that it and the cerebro-spinal system share the influence. J. F. Lobstein conjectures the paroxysmal form of fever to be owing to a perverted action of the abdominal system, producing a diseased impression upon the solar and other plexuses, whereby the harmony of their functions is interrupted; but he does not appear to place any of the onus of causation upon the spinal medulla. Letting these conjectures pass for what they are worth, there can be no reason to doubt the utility of counter irritation over the track of the spine in some instances of fever, whether intermittent, remittent, or continued.

Dr. Enz of Wurtemburg, among many others, appears to have paid considerable attention to this form of disease, and relates many cases in which the application of this theory has been of great utility in their treatment. His notion of the influence of this disease extends much further than I have been accustomed to consider it applicable. In his view, hæmorrhages constitute another form of disease frequently dependent upon spinal irritation, and gives to this the credit of causing epistaxis, hæmatemesis, hæmoptysis, and especially menorrhagia. "Often," he says—I quote from a notice of his work in the Med. Chir. Rev.—"have I been summoned to consultation in obstinate cases of such hæmorrhages where all means of relief failed, until once the real cause of the disease was discovered by a careful examination of the spine."

He asserts that dysmenorrhæa, among other affections of the circulating system, with all its accompanying chlorotic and hysterical symptoms, has very often its origin in some spinal affection. If there is any one disease which more than others should call into energy the studious reflection and ingenuity of the medical practitioner to devise means for its relief, it is that which, affecting alone the fairest portion of our race, brings into severest exercise the sympathies of our hearts, while it too often to them, renders life a miserable burden. This alone should induce us to repudiate all incredulity in the views of another, when he may appear extravagant or fanciful in his theories; but when we recollect how unsatisfactory and inefficient has the treatment of this disease hitherto been, it is especially demanded of us that the faintest shadow of hope should be embraced, when so very desirable an object as the diminution of these terrible sufferings is the end sought. I do not wish it to be inferred from this, that I consider the suggestion of Dr. Enz with regard to dysmenorrhæa as either fanciful or extravagant, for so surprised have I often been by my own observations, and by the recital of cases by others, of the influence of this spinal affection, that I do not think his view at all improbable, and believe it worthy of the serious attention of physicians.

In the formidable list of diseases which is here presented as simulated by this affection of the spinal nerves, and the accuracy of which pathological view is well proven by the innumerable observations of a crowd of pathologists, we certainly have abundant warning to be continually on our guard against an error in our diagnosis at the bedside, which may serve not only to prolong the sufferings of our patients, but likewise jeopardise our reputations, especially when a decision may be so easily obtained respecting the existence of this disease, in most cases. It must not be forgotten that it is very rarely apparent at first sight; that it is concealed by other diseased appearances, which are very likely to completely draw attention away from it; and that having few diagnostic signs, it can only be discovered by actual examination of the spine. Even tenderness on pressure is sometimes absent, when, our treatment for other affections having failed, we have reason to suspect the spinal axis to be involved in the morbid changes.

But I have not, by any means, enumerated all the diseases which may be simulated by spinal irritation; indeed we doubt, whether, from the interminable varieties which most diseases assume from various causes, as climate, temperament, &c. it could be done; but as has been well remarked by Hinterberger, there is scarcely one malady whose mask it may not wear, and he has adroitly denominated this department of pathology the *cryptogamic.* This may be truly called the Protean malady; and the absolute necessity of ascertaining whether it does exist or not, cannot be denied, however confident we may be of another diagnosis, without such knowledge. I have lately endeavoured to ascertain how far, in my own practice, this disorder has been influential in producing all, or a part of the symptoms observed. The observations which I have made on this point, embrace but a short period of time, as, not having made any record of the ordinary cases of disease in which it has had but a partial influence, the memory is an insufficient foundation for a tabular arrangement. The period from which I have drawn my conclusions, presents this result: in all the cases which I treated, medical, surgical, obstetric or other, spinal irritation was influential in about 25 per cent. in producing some of the disordered appearances, and counter irritation over the spine aided materially in relieving the symptoms. This includes those cases whose symptoms depended entirely upon spinal irritation.*

PATHOLOGY.—We come now to the inquiry into the pathological condition of the spinal cord and nerves, in this state of "Irritation." In looking over the history of this part of our subject, we find that although but few writers have appeared upon it, yet they have taken views of it widely different from each other, and much diversity of opinion still prevails respecting it. The inquiry has, however, of later date, been narrowed down to a smaller compass, and seems to embrace at present only this question:—Is the pathological condition of these parts in this

* A *coup d'oeil* of my practice since the reading of this paper, gives, as near as may be, the same proportion of influence to this disease. I am satisfied it is much more common than is generally supposed.

diseased condition, a true inflammation or not? If this point shall become satisfactorily settled in the negative, we shall not, however, have arrived at the conclusion of the pathological inquiry; for the question then will be:—If it is not an inflamation, what is it? There are two reasons why, to many persons, time and thought spent in this inquiry, would seem to be thrown away, or wasted in useless theorizing. In the first place, it might be maintained, that the question never can be satisfactorily settled; because we have not had, and may never have, an opportunity of resorting to the final and decisive test of such a subject—autopsia. And secondly, we may be told, that even should the inquiry be settled to the satisfaction of all parties, and the true pathology of the disease be clearly ascertained, it would lead to no practical good, for the *modus medendi* is so well understood, and our means of treating all degrees and stages of it, are so ample, and well known, that no very useful addition, it is at all likely, can be made to the list of curatives. To the general objection contained in these two sentences, against the practice of theorizing, it may be answered, that the endeavour to form a good and consistent theory in medicine, is only another mode of expressing the attempt to ascertain the most correct *principles* of a disease, in other words its true pathology; and as a *sequiter*, the most efficient means for its prevention and cure.

To say that we have attained to the high point of perfection in the cure, is to admit a very dangerous principle, with regard to any disease whatever, especially one which at a date comparatively so recent, has received the attention of the medical world, as "Spinal Irritation." He should be deemed an inefficient and dangerous physician, who will allow his indolent conscience to be consoled with the reflection, that all is known that can be known, in any department of medicine.

But to the first question, whether this state of irritation is an inflammation of the medulla, or of its nerves, or not?

Different authors, as I have already hinted, maintain different opinions on this subject, and support them by divers arguments. Among those on the affirmative of this question, may be named Teale; who, though he does not enter profoundly into the discussion of the question, maintains that it is an *inflammation* of the nervous tissue. He admits that the precise nature of the affection must remain conjectural to a certain degree; but observes, "the collateral evidence however, is of such a nature, as to leave but little doubt of the disease being inflammatory." He indeed uses the term irritation in the same sense as the continental writers, "regarding irritation and inflammation as morbid states, differing only in degree, and exhibiting no distinct line of demarkation." His first argument is founded upon a supposed similarity between the symptoms of the *commencement* of the more severe diseases of the spinal cord, and the signs of these milder forms of disease; and he says, "every gradation of symptoms may be observed, from those which denote the mildest irritation of the spinal marrow, to those which attend its complete disorganization." Hence he infers they are but lighter shades of the same disease, inflammation.

This can at best be considered but a negative proof of the correctness of his position. It is not enough to say that a similarity of symptoms indicates a similar disease; for every practitioner knows, that very different diseases, in many cases, are not distinguishable by different signs from each other. Our text-books contain many examples of this kind. I need only mention the instance of phthisis, to show the discrepancy of the signs by which a disease may be unequivocally known.

But to examine this point we must go further, and call to mind the true, the well known, and established symptoms of *inflammation,* and also its results; and compare them with the evidences of disease in spinal irritation. Increased heat and redness, and pain with tumefaction of the affected part, are the indications of true inflammation, varying in intensity corresponding with the degree of the disorder. These are the general characteristics of inflammation; and I presume it will be conceded by all, that no specific inflammatory action can exist in any tissue whatever, unaccompanied with these, or most of these marks. Now I do not see that we have in the disorder under consideration, any testimony by which it can be shown, that either or any of these characters exist *in the part* which we believe is diseased. Moreover, whenever an inflammation occurs in any organ beyond the reach of manipulation, and we are unable positively to prove that any of these signs exist, we become assured within a reasonable time, that a true inflammation has been at work with its insidious fangs, by its *results;* chiefly an alteration in the structure of the affected part, or by autopsical examination, as in inflammations of the lungs, liver, intestines, and even of the brain itself. I wish now to show that by neither of these two methods, i. e. either by observing the symptoms as they exist during the disease, or by its results, can we be justified in calling this anormal condition, an inflammation.

In the first place, I have never discovered either that the integuments covering the spine give any sensation of increased temperature to the hand, or that any is felt by the patient in the part; nor have I seen it noticed by any writer. It may be said to this that the affected tissue is too remote from the surface to allow the increased temperature to be perceived. But how do we find the case to stand in inflammations of other parts which are situated equally far beneath the surface? Witness, for example, inflammatory affections of the internal structure of the knee, and other joints; is not the sensation of elevated temperature in the integuments, a universally expected symptom here? And in inflammation of the brain, or its meninges, does not the scalp invariably give to the hand an increased calorific sensation? If in inflammation of these deeply seated parts, we expect to find this symptom, we should equally expect it in a true inflammation of the spinal cord.

Secondly, no redness, of course, can be observed in the affected tissue, as it lies much below the surface. Respecting the remaining characteristics of inflammation, the pain and swelling, it is generally supposed that the former depends upon the latter. The swelling is caused by the increased flow of blood to the part, together with a deposition of extraneous fluid or solid matter; and these exerting a mechanical compression upon the nervous extremities, give rise to the pain in ordinary cases of inflammation of the nervous or any other tissue. There is a *possibility* that these circumstances may happen in spinal irritation; but we have no facts to warrant the conclusion, especially when we bear in mind that pain of the most intense kind and of various character depends very often, as all have seen, upon some purely nervous affection, where the supposition of inflammation can- be admitted.

Case XV.—Severe and extensive irritation of the nervous system, without pyrexia.—The case of Mrs. G——, (formerly related to the society) is an illustration of this; in which pain of the most excruciating character commenced immediately after parturition in the vicinity of the coccyx, and thence spread itself to different parts of the body, until almost every portion of it was involved in the general distress, having continued till this time, with occasional intervals, a period of three years. These pains assumed the severest forms of neuralgia, and when at their highest point of intensity, and embracing at once almost every section of the body, were often unaccompanied by any febrile reaction, although this did frequently obtain during the progress of the disease. In this case it would seem as if a revulsion of some kind, inscrutable to us, took place in the nervous organism, following immediately in the train of, and perhaps produced by, the change in the uterine system.

I wish it to be deduced from this, that pain is not always the consequence of inflammation and tumefaction.

Again, in almost every case of disease which has a true inflammation for its proximate cause, the pain is felt in the seat of the inflammation. I do not forget the axiom so well established, that the disorder of the *root* is often felt only at the *sentient extremity* of the nerve, as is the case in this very disease; but I maintain, that when an inflammation of a nerve, or its neurileme occurs, the pain is not so likely to be felt in the extremity of *that* nerve, as of the nervous twigs which supply the part, or the neighbourhood of it, that is immediately the seat of the disorder. In other words, the pain of an inflamed nerve, or neurileme, is experienced at the diseased point.

Again, as to the accompaniments of inflammation affecting the different tissues of the body. May it not be incontrovertibly asserted, that when an inflammation attacks any part of the body, however insignificant in its vital relations, a greater or less degree of constitutional disturbance, as fever, invariably follows in its train. (I should here except that state of inflammatory action which is the result of a simple wound, and which is necessary to the curative process; this is often unaccompanied with any fever.) We observe it even in the trifling paronychia, in conjunctivitis, in inflammation of a tendon or a bone; and if general pyrexia is producible by disease of parts so unimportant to the general relations of the organic arrangement, can we believe that an inflammation of a structure so important as the spinal cord, sustaining such intimate connections with every organ of the body, upon whose integrity every function of the animal depends for its healthy continuance; in a word, so completely commanding the avenues of every feeling, and even of life itself; and an inflammation, too, that to produce all the powerful and Protean symptoms attributed to it, must be severe —can we believe that such an inflammation of such an organ can exist without the slightest appearance of general febrile reaction?

Turning our attention to the usual results of inflammation, we find them stated to be, in most cases, either resolution, suppuration, adhesion, ulceration, serous effusion, adventitious deposits, or gangrene, and we look in vain for any of these in this disorder.

It may be urged, interrogatively, whether a low degree of inflammatory action might not exist for a long time in some tissues without proceeding to any of these conclusions, but continue in the part without aggravation or diminution, and producing the existing train of symptoms, until relieved by extraneous means. And in support of such a view, cases of apparent similitude in various other delicate tissues, might be, and indeed have been, advanced. Such as inflammation of the conjunctiva, where the disease often occurs, remains a long time, without producing any of the usual results of inflammation. But I very much question whether it is a fact that this, or any other organ, can be affected for a long time with a true inflammation, especially of an acute character, without its producing some derangement in the part. Either a permanent distention of the blood-vessels, a thickening of the adjacent cellular tissue, adventitious depositions, or adhesions between the parts, it is more than probable will always result. If we come to this conclusion with regard to this, or other tissues of similar grade, we certainly could not do otherwise, when considering one so much more delicate, as is that which composes the matter of the nervous system, or any part of it. We find the disorder, whatever it may consist in, existing, not for a few days or weeks merely, but for months and years; and often, after the longest periods of continuance, we have seen it relieved, instantly and permanently, by very mild applications. Such is not the usual course of exalted vascular action in any other part. It may be that it is here guided by new laws, and subject in this peculiar tissue to different limits, but, if so, we know nothing of the proofs.

One other point we must consider in this place, which, perhaps, will be deemed not the least conclusive argument. The most essential part in the curative process of anormal vascular excitement, is the reduction of the *vis a tergo.* This end, obtained by general V. S., has always been considered, and very justly, no doubt, as a requisite of great importance in the treatment of inflammations, either general or local, and is resorted to alike, when it attacks the grossest and the most refined structures, and its beneficial results are almost always apparent. Even in cases of local inflammation, where there appears little or no general excitement of the vascular system, the lancet is often resorted to, and with good effect. But in spinal irritation, as far as my experience goes, and others confirm the position, this remedy, though apparently strongly indicated both by the local symptoms, and those at a distance from the seat of the disorder, not only fails to produce the hoped for result, but often, and generally to the surprise of patient and physician, aggravates the disorder. The tenderness of the spine, and the pain of the distant points supplied by its nerves, do not seem to be increased so much actually, as comparatively, by the increased lassitude and general debility of the patient. Be this as it may, I have never found it a desirable procedure, and have sometimes been led to believe, that its employment has retarded the sanative effects of the proper applications.

In the enumeration of the symptoms of inflammation of the cord, Ollivier, who has written an elaborate work on the diseases of the spinal marrow, states, that a pain *in the affected part* is one of the first noticed by the patient.* Now, so far as my observations have extended, such is not the case with pure spinal irritation. On the contrary, it almost invariably happens, that not only is no pain complained of in any part of the spinal column, but very often, and in aggravated cases, surprise will be expressed when the physician asks the question. Often when I have expressed a wish to examine the spine, has the request been met with an incredulous smile; so entirely free from any uneasy feeling has this part continued, during the whole existence of the irritation. And further still, even when pressure is made upon the vertebræ, and all the symptoms in the anterior parts of the body and limbs are increased in severity, very often no painful sensation is experienced at the part where the force is applied. Must not this be considered a powerful evidence in support of the opinion that the capillary vessels of the spinal cord, or its coverings, are not in an inflamed condition? and that the proximate cause of this disease has no material connection with the circulating vessels?

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* En même temps, ou peu aprés l'apparition de ces phénomènes, le malade se plaint d'une douleur profonde et plus ou moins vive dans un point de la longeur du rachis, qui correspond à la partie du centre nerveux ou siège l'inflammation.

Is there any good reason to doubt that a high degree of functional derangement may exist in the nervous centres, or in the nerves themselves, without the accompaniment of inflammatory action? We believe that functional disturbances of other organs occur without any connection with vascular excitement, and why not here likewise? What is dyspepsia? what is gastralgia? are they not functional disturbances without pyrexia, and even unaccompanied with congested vessels? If such a state of things may exist in an organ so intimately associated with the vascular system as the stomach, surely it cannot be heresy to assert a similar freedom in the medulla spinalis. It may be difficult for many, perhaps impossible for some, to imagine how a disorder characterized by such severity of symptoms as this, can exist independently of inflammation, or at least of vascular turgescence of a less active kind; but it must be a narrow horizon which binds the vision within so small a compass, that one cause only can be seen for all effects. A vascular hobby is surely as liable to be overdriven as a nervous one; by using each in its proper place, both may be preserved for useful purposes.

In the pathological view which I have here very slightly attempted to sustain, I find myself not unsupported by more nervous pens than my own. The quotations below are from the Med. Chir. Rev., the original papers not having met my search. Dr. Craigie of Edinburgh, maintains the position that irritation of the spinal cord is "a state induced by stimuli, or irritants, in which the natural properties are unduly and unnaturally roused—yet without giving rise to the process of inflammation, or the formation of morbid products." The case which elicits these remarks is an interesting one of metastasis of irritation from the spinal cord at its lower part, producing paralysis, to the brain, producing insanity, the phenomena attendant upon the former location being entirely removed while the brain was affected, and vice versa. He thinks that the morbid phenomena "proceeded from irritation of the spinal cord, or its envelopes, or, perhaps, (and he here lapses somewhat into the humoral pathology,) to speak more to the fact, from a languid or inert state of the circulation within the rachidian vessels, and a consequent congestion, which first irritated, and then compressed slightly the spinal cord, and the origins of the nerves." Passive congestion may be readily granted as a reasonable result of the functional derangement constituting the disease under notice; nevertheless, I believe this state of irritation may, and often does, exist without any vascular disorder whatever, being of a purely nervous character.

Dr. Kennedy, in his valuable and practical Treatise on the Cerebro-Spinal Disorders of new-born Infants, in speaking of the convulsions of this class of patients, is made to utter the following sentiment in the Journal just named: "That convulsions can take place without irritation of the brain or spinal marrow at the moment, few practitioners will now aver. But the nervous centres may be irritated without being *inflamed or changed in structure.*"

It will be found a much more difficult task to define in words the exact condition of the parts so as to make it understood by a reader, or even by one's self, than to advance reasons against the phlogistic theory. The pathology of purely nervous diseases is of a character, which may not easily, I imagine, be put down in set forms of speech; the physiology of this tissue is too obscure to allow the hope of ever comprehending the nature of the changes of which it is the seat when diseased. I will, therefore, spend no more time on this division of the subject, than to remark upon one or two other points connected with it.

That law of the nervous economy, by which an irritation occurring at the origin, or any part of the course of a nerve, produces its sensible effects only at the sentient extremity of that nerve, is now well established, though it may be impossible to explain its *rationale*. Not the least interesting fact of this pathological law is, that the *sensations* resulting from this irritated condition, are usually such as are experienced by *bona fide* disorders of the organs or parts, supplied by the irritated nerves. This may be accounted for in this way. The nerve which is furnished to each organ from the spine, is capable of conveying only one kind of sensation, which is suited to its wants and habitudes, the sensation of each organ corresponding to its position and requirements; so when the origin of the nerve becomes disordered, it can only convey the peculiar sensation which it was designed to have, thus giving rise to the very plausible supposition of a disorder in the organ itself, when it is, in reality, seated wholly at the opposite extremity of the nerve.

Another very important particular connected with the pathology of this disease, is one which can scarcely be too strongly urged upon the notice of medical men,—one of whose reality there can be no doubt, if the concurrent testimony of various authorities is to be credited. I allude to the liability of the simulated disease to run into, or produce, actual organic disease. There is strong reason to believe that disordered actions of various parts very often have their origin solely in derangement of the nervous influence with which the organs are supplied, a derangement which, if checked in its early stages, would leave no trace upon the organic structure. Numerous authors testify to their belief in the nervous origin of many serious organic and functional diseases, and some give to the nervous system the *initiatory* in all, or nearly all, morbid actions. I confess that on a calm review of the successive steps in the route of morbid changes in most diseases, it is not easy to avoid arriving at the conclusion, that in the nervous system must lie the primary morbid action. It must not be forgotten, however, that the condition of the blood and other fluids has an influence over the nervous system, and the original cause may exist in them, though imperceptible to our senses. It is, however, universally admitted that irritation of the nervous centres, if long continued, may be the exciting cause of structural disease in other organs, and it behooves the physician to be ever watchful to detect the latent origin of the morbific action if possible, especially when it occurs in the part so much more easy of examination, as is the spinal medulla, than the other nervous centres.

TREATMENT.—In the treatment of spinal irritation, the first principle to be kept in view is that of counter-irritation; and the second indication is to sustain the energy and tone of the nervous system, and the spinal cord in particular. Some of the various applications which a perusal of the preceding cases will show to have been adopted, would seem to act as local depletants, and an apparent argument may be drawn against my views of the pathological condition of the nervous trunks in this disease; but this I cannot admit, for reasons which will appear as we go along. Among the most speedy of the means of relief, cups and leeches have occupied generally the first rank, but I am strongly inclined to the opinion, that the benefit derived from them is not more attributable to the loss of blood, than to the irritation produced by their action on the skin. Counter-irritation alone, produced by rubefacients or excitants applied to the skin over the diseased part of the medulla spinalis, has almost always been found to produce as great and decided utility as those means by which blood has actually been drawn, the only difference being the rapidity, and, in some instances, permanency of execution, which are in favour of the latter. In cases of much severity, therefore, the better course is to advise the application of cups or leeches, which will always be found productive of decided benefit. Disappointment, however, will occasionally attend this application, i. e. the subsidence of the internal irritation will not always be commensurate with the external. A repetition of this, or of some other application, will therefore be necessary. Some authors have advised the application of dry cups, and in their hands much advantage has been derived from their use. I have no doubt they would prove serviceable in many instances. General bleeding, as has before been stated, will mostly prove disadvantageous, even in those cases in which its indication may appear most decided. Much caution must, therefore, be exercised by the practitioner; for an incorrect practice on this point may add materially to the pains and disability of the patient. The same objections are applicable with equal force to the use of general depressing remedies, as tartar emetic, ipecac, &c. This disease is *not* of an inflammatory nature, and all medicines or applications which act upon that principle, will be found injurious.

Proceeding then upon the view which we have laid down as proper for the treatment, the next means of relief which attracts attention, is that of vesications by the various means in general use. First comes the fly blister. This must be ranked among the most valuable of this class of remedies. The action which it produces upon the skin, appears to be of precisely the character desired, — a powerful irritation, with relief of the local blood-vessels, without extending beneath the cutaneous structure. The effect of this application will frequently be observed to be an increase of the pains at the commencement of its operation; but when the vesicating action has become fully established, the usual result will be found of the most pleasing character, a rapid and complete subsidence of all the pains, and of the feelings of prostration. Occasionally, the irritation of the blister seems to increase the medullary irritation, but with the healing of the former, the latter will diminish and gradually disappear; and I have rarely, if ever, been disappointed in my anticipations of relief from this remedy in this disease. In the event of the failure of leeches or cups to procure all the benefit desired, the application of a blister over the scarifications or leech-bites may always be deemed sufficient to complete the cure, so far as counter-irritation will do it.

All that is wanted of a blister is that its action should be more speedy than it usually is; that the patient should not be obliged to wait six, eight, or twelve hours before he can receive its benefit. We are in possession of an article which will produce an instantaneous vesication, the value of whose irritation is equal to that of the ordinary vesicatory: I allude to aqua ammonia fortis. Not long since, Dr. Granville of London, after a preliminary publication of 100 cases of nervous and inflammatory diseases, in which he asserted the extraordinary value of a new lotion which he had invented, as capable of producing an instantaneous cure when applied to the skin, and after being closely pressed on all sides to give to the profession the composition of this wonderful compound, which was to work such extraordinary changes in some part of the practice of the healing art, announced it as composed of

Aq. Ammon. . Tinc. Rosmar. . Tinc. Camph.

The aq. ammon. according to his formula is to be made of extraordinary strength — none of the usual forms of the shops are of sufficient strength — its specific gravity must be .872 — 100 parts of which will contain 33 parts of real ammonia, according to Sir H. Davy's tables, which is three times the strength of the liq. ammon. of the London Pharmacopœia. The strongest aq. ammon. which I have seen in the shops here, which is probably as strong as any usually made, had a sp. gr. of .890, containing about 27½ per cent. of ammonia. It may without fear of contradiction be asserted, that it is to the ammonia which it contains, that Granville's lotion is indebted for its property of producing a rapid irritation and vesication of the skin, and it may be well doubted whether the other ingredients have any share whatever in the effects resulting from its use. Camphor can possess little or nothing of an irritating property when merely laid upon the skin, and as for the rosemary, its rubefacient influence must be of a very trifling character, and in connection with the ammonia, its power must be about equal to that of a rushlight brought in to aid the sun. What then in theory is the effect of the admixture so long kept a secret, and now boasted of by its inventor and others of a more doubtful character, as a wonderful antidinous lotion? Can it be anything more than this, that the ammonia originally so powerful, is diluted to nearly one half its original strength by the addition of the two tinctures? The proportions of the three articles forming *the* lotion, are four-eighths of the aq. ammon. three-eighths of the spt. rosemar. and one-eighth tinc. camph. in the milder preparation, and in the stronger there is an addition of another eighth of the aq. ammon. in the place of one of the rosemary. Alcohol will absorb ammoniacal gas, though probably not in so great a degree as water, and the necessary consequence of an admixture of ammonia and alcohol, must be a diminution of the strength of the former. Now when aq. ammon. of the sp. gr. of .872, is mixed with an equal weight of alcohol, though the latter holds other matters in solution, it will at a liberal calculation, reduce its strength one-third, when its sp. gr. will be about .930, and will contain about 17 per cent. of pure ammonia, or about 10 per cent. *less* than the strong aq. ammon. of the shops. And what is the effect produced in practice? precisely what would be anticipated from this view. I have tried the lotion prepared by Crossman of Philadelphia, and also the strong ammonia of the shops, and a comparison of their effects is decidedly in favour of the latter. Its action is more rapid, and equally effective without being more painful. The grand flourish therefore in the directions for its preparation, made to display the virtues of this lotion, can have no foundation in science, and can only be "ad captandum vulgus." Moreover the boasted invention contains no new principle; ammonia has been employed as an external stimulant, and indeed as a vesicatory, for many years. A member of our Society tells me he blistered with it 10 years ago, and in France its action, in this respect, has long been acknowledged.

But to return from this short digression, we have in ammonia a powerful remedy for the immediate relief of the malady of which we are speaking. Applied to the cutaneous surface by means of a compress well moistened with it, its rubefacient effect is instantly perceived by a burning sensation. In fact I have known the result to be produced before the compress has touched the skin—the vapour alone irritating the surface. In from two and a half to seven minutes, if closely applied, a full blister will be raised. In my own person, after the application of the strong aq. ammon. for two minutes and thirty seconds by the watch, a free vesication was the result. The amount of irritation can be thus nicely regulated by occasionally inspecting the skin beneath the compress. The effect of external irritation thus induced, though it may not amount to a vesication, (which in fact is not often desirable,) will be generally a relief to all the sufferings in the parts supplied by the nerves over which the new action is produced. If the case should be of a mild character, the irritation of the medulla being of a light degree, a less active irritant over the tender part will probably be sufficient. For this purpose I have used a slightly irritating lotion composed of equal parts of aq. ammon. and spts. tereb. with occasionally the addition of tinc. camph. which is to be *rubbed* on with a piece of flannel. This produces but a transient irritation of the skin, but often will be found sufficiently active.

Case XVI.—Spinal Irritation circumscribed. Cured by a lotion.—While writing this part of the paper, I was called to a lady who supposes herself to be about four months *enceinte*, complaining of a gnawing pain in the epigastrium, pressing down pains within the ileum of each side, extending to the pubis, and the peculiar lassitude and listlessness of this disease. An examination of the spine of which she makes no complaint whatever, discovers the third, fourth, and fifth dorsal, and some of the lumbar vertebræ to be quite tender, and pressure upon them causes an increase of all the morbid sensations just described, and the lassitude particularly is so much aggravated, that she is obliged to rest a few minutes before she recovers energy enough to answer my questions. Depression of spirits accompanies these appearances in a marked degree. The above liniment was directed to be used, and two or three applications of it produced a decidedly favourable impression. Its continuance for two or three days removed all these symptoms.

Sinapisms may sometimes be employed with benefit, but my experience with them is not favourable. The irritation which they produce does not seem to be of a character suited to the disease. I have sometimes used them when a prompt action was required, and no better means was at hand.

With respect to tartar emetic ointment, I am decidedly opposed to its general employment as a counter-irritant in this disease, although others have spoken favourably of it, and recommend its use. The ulcerative action which it causes is not required for the removal of the internal irritation, for, as has been more than once hinted here, depleting remedies are not those best calculated for this end—and in the deep subcutaneous action of this ointment, we have not only the local operation much more severe than is necessary, but the general operation of the antimony taken in by absorption is adverse to the curative process, for reasons before given. The counter-irritation required is such only as will affect the cutaneous vessels, the pathology of which operation has been suggested by Dr. Annan of Baltimore to be this:—the cutaneous tissue has greater sympathy with the spinal cord, from the large number of nervous filaments distributed upon it, than the subjacent tissues, especially the subcutaneous, which has but few nerves in a given space, the nerves passing through it in comparatively large branches; and from the sentient extremities of the nerves being ramified upon the skin, it is very important that inflammation should be kept up in it with as little injury to its sensibility as possible. Now it is evident that the antimonial ointment not only produces an ulcerative action of the subcutaneous tissue, a more profound action than is at all necessary, but in doing that, it must necessarily destroy the skin, whereby all the advantages derived from its sympathetic influence are totally lost. With regard to other remedial processes, of a similar character, such as issues, moxas, the actual cautery, &c. the same objections are applicable, except that of the specific action of antimony on the system. In diseases of the medulla of a decidedly inflammatory character, where disorganization or some other equally serious result is likely to ensue, such a course of treatment is evidently proper and necessary; but in such a disease as spinal irritation, which is of a purely nervous character, I have too often noticed the worse than useless influence of such profound applications, not to be earnest in my condemnation of them. Almost all writers who have used the antimonial ointment in this disorder remark, that when its peculiar action commences, the disease is evidently aggravated, and this aggravation continues until the ulcerative process begins to decline; and then, but not till then, symptoms of amendment begin to be perceived.

Croton oil presents itself as a very attractive article to excite counter-irritation in this disorder. The effect which it produces upon the skin appears of precisely the character required, being sufficiently prompt and decisive without destroying the cutaneous tissue. I have employed it in one case only, but in that with a very happy result, and am strongly disposed to urge its further trial.

Dry friction with the hand, or with a piece of flannel, continued 15 or 20 minutes, with moderate pressure, until a rubefacient appearance results, will give great relief in many instances, especially with those whose skin may be too sensitive to bear a sufficient action with any of the foregoing irritants. The advantage with this application can, of course, be only temporary.

These articles constitute all that I have been in the habit of employing as external applications, and having uniformly suc-

'ceeded with them in allaying the severity of the most severe forms of this disease, I have been spared the necessity of looking for others. There are, however, some others which seem to have been active adjuvants in the hands of other practitioners, though none possess more valuable properties than those I have enumerated. In addition to, and immediately after the application of cups or leeches, Dr. Enz employed embrocations of mercurial ointment, and he thinks he has derived much advantage from its use.

Respecting the internal treatment of this disease, a few words are necessary. If the practitioner has reason to believe that the intestinal canal is overloaded, a good laxative dose will be very proper at the outset of the treatment, or if he thinks that the primary cause of the spinal irritation may reside in the bowels, a drastic cathartic may be administered ; but I am of opinion that in idiopathic spinal irritation, little or no benefit will be derived from active purgation. The great indication in the *general* treatment is to sustain the energy of the system, and powerful purgatives have usually the contrary effect. If the character of the symptoms should be such as to excite apprehension of inflammation of the cord, these artificial intestinal irritations, will be indicated, as in other inflammatory disorders, but not so with diseases of the nature of simple spinal irritation.

After the preliminary measure of a cathartic, and after obtaining all the available benefits of the local applications to the spine, the treatment which I have found most useful has been of the tonic kind. The administration of carb. ferri.—of quinine—of the bitter woods. A nutritious diet; cold bathing; at the *sea-side if practicable; daily ablutions of the whole body with cool water;* avoidance of too warm clothing, a hair mattrass at night, with moderate exercise in the open air, will be found to be productive of signal benefits. During the existence of the disorder in its more severe form, active exercise will be found not only generally impracticable from the pain it excites, but likewise injurious to the disease. The spine seems to require rest and support; but after the symptoms have been allayed, and the counter irritation has subsided, the addition of gentle exercise in the air, on foot or in a carriage, will greatly assist the other parts of the regimen. Especially, should the exercise be of such a character that the mind may be diverted to agreeable objects, and the patient not be allowed to dwell too much upon his own condition, and to forget, if possible, that he has such a thing as a spine. In one of the most severe and protracted cases that I have ever had under care, after relieving the most urgent symptoms by topical applications of leeches and blisters, the patient was put on the use of the steel dust, and the amendment was very satisfactory. Its employment was conjoined with general exercise and the invigorating air of the country.

Some instances, in which the irritation was very slight, have been benefited by the administration of a grain of sulph. quinine three times a day, without any other treatment. United with these tonic remedies, the use of sedative medicines sometimes applied externally, at others given internally, will occasionally be found beneficial. The ext. stramon. rubbed along the spine often allays the excessive irritability of the patient, and this or the Belladonna taken internally frequently will have a very happy effect in quieting the whole system, and promoting the ultimate cure. An ointment made by the addition of half an ounce of the extract of aconit. napellus to an ounce of adeps, has proved serviceable in my hands in allaying the local distress of nervous disorders, when rubbed upon the affected part.

ARTICLE VI.—*Researches on Hernia Cerebri, following Injuries of the Head.* (A quarterly Essay, read before the New-York Medical and Surgical Society, March, 1840. By GURDON BUCK, M. D., Surgeon to the New-York Hospital.

IN complying with the appointment with which my colleagues have been pleased to honour me, I have made choice of a subject to which my thoughts were very naturally directed at the time, by the circumstance of having under my charge a patient with hernia cerebri. I therefore determined to explore the annals of surgical science within my reach, in order to collect all the cases of this disease which they furnished, for the purpose of comparing and analyzing them, with the view of arriving at some more positive knowledge on this subject than has perhaps yet been attained.

Before entering upon an analysis of the materials derived from these sources, I will relate the case that came under my personal observation, which may serve as a fair specimen of the disease as it commonly presents itself.

Gustavus Berryman, a Swedish sailor boy, aged 17 years, of robust constitution, was admitted into the New-York Hospital in the afternoon of October 3d, 1839, with a very severe injury of the head, and compound fracture of the left thigh; produced by a fall from a height of about 80 feet to the deck of a vessel, which happened three or four hours before his admission. During this interval he had been in a state of great agitation, and was almost frantic with pain, so that several persons were required to restrain him. In order to quiet this state of extreme irritation, an opiate had been administered. After being put to bed he was more calm, and became quite conscious, and gave rational answers to questions; his pulse was small, weak, and frequent, and the temperature of the surface below the natural standard. The injury of the head was then ascertained to be as follows: Both eyes were very much contused, the lids black and blue, and swollen, the left closed, the pupils were dilated, and vision impaired to such a degree that he could only distinguish light. Over the left eye was a lacerated wound more than one inch in length, running parallel with the margin of the orbit, with a swollen and doughy condition of the surrounding parts, allowing the finger to be buried beneath the surface, and conveying the impression that there was depressed bone; a fracture, with only a slight degree of depression, could be felt at the bottom of the wound. There was also a lacerated wound of the left cheek, with a good deal of contusion, but no fracture of the bones of the face; the edges of the teeth of the same side were broken off, and blood had flowed from the nose, mouth and ears. Besides these severe injuries of the head, there was a compound and comminuted fracture of the left femur at the upper part of the middle third. Cordial drinks were administered, warmth was applied to the extremities, and a cooling lotion to the forehead. Towards morning reaction of the pulse came on, with restlessness and delirium. Sixteen ounces of blood were drawn from the arm, and a cathartic of eight grains of calomel and twelve of jalap was ordered. At noon, 24 hours after the accident, all the symptoms being aggravated, an explorative operation was resorted to. The existing wound over the left eyebrow was prolonged at each extremity to three inches in length, and from its middle another incision of the same length was extended perpendicularly upon the forehead; the angles were then turned back, and the extent of the injury brought into view. The os frontis was found broken into three fragments that included the space between the margin of the orbit and the frontal boss; the middle and smallest of these fragments was considerably depressed. An application of the trephine was necessary, in order to remove two of the fragments that were detached from their connections; the largest of these two, formed the outer half of the margin of the orbit, together with an adjacent portion of the orbitar plate, and of the temporal fossa; the third fragment being very firm, was not removed, but only elevated to its proper level. The dura mater was found lacerated, as well as the brain itself, and a small portion of its substance was discharged. A suture was introduced near the extremity of each incision; straps of adhesive plaster, pledgets of lint, graduated so as to make pressure over the wound of the dura mater, together with a compress, kept in place by means of a four-tailed bandage, completed the dressings.

During the 48 hours succeeding the operation, his symptoms were very violent; he was extremely restless and delirious; chattering and singing Swedish songs, or breaking out into shrill piercing cries. It was necessary to restrain him by fastening his hands; the least thing, even feeling his pulse, would excite him to make the most violent resistance. Pulse was 112. He was freely purged, and one dozen leeches were applied below each ear.

On the fourth day of the accident he became more calm, and was quite rational; he took some light nourishment, and complained of general soreness, but not of the head; his tongue was moist and clean, and his pulse below 100. At evening, however, he became more restless again, the pulse more accelerated, hard and tense; he was bled to twelve ounces, and after taking eight grains of calomel, with five of Dover's powder, he passed a quiet night.

The fifth day he was perfectly rational and calm; pulse 96, soft. The wound was now dressed for the first time; adhesion had taken place at the extremities of the incisions, and every thing presented a favourable appearance; the sutures were removed, adhesive straps, compresses, &c., were reapplied, and he was ordered to take the compound infusion of senna. At evening there was again an exacerbation of his symptoms; pulse was 108, and tense; intellect disturbed. Punctured an abscess over the left cheek; applied one dozen leeches beneath each ear.

Sixth day.—The first part of the night he had been restless, but was quiet, and had slept the latter part. His intellect, at my first approach, was confused, but soon became clear and collected. To-day a *hernia cerebri* began to show itself in the form of a dark brownish protuberance, beneath the angles of the incisions, and emerging through the wound of the dura mater; the wound in other respects appeared well. Pressure was applied over the tumour.

Eighth day.—The tumour was more prominent and of a more florid colour, the surface of the sore presented a sloughy appearance and yielded an offensive discharge: pulse 88 and soft. Dossils of lint wet with lime-water were applied to the tumour and pressure was continued; nourishing diet was allowed.

Thirteenth day.—(Seventh of the hernia.) While the dressings remained off, the tumour increased considerably in size, and became as large as a butternut. I now excised it as nearly as possible on a level with the dura mater, with scissors curved flatwise; it caused very slight hemorrhage and little or no pain. Compresses wet with lime-water were continued and adjusted so as to make firm pressure upon the excised surface. The tumour, when sliced, presented all the appearances of cerebral substance in which the cortical and medullary portions could be distinctly recognised. The cerebral functions were not at all disturbed.

Fifteenth day.—(Ninth of the hernia.) The application of diluted nitric acid of the strength of twenty drops to the ounce of water, was substituted for that of lime-water, and firm pressure continued as before.

Twenty-first day.—(15th of the hernia.) Observing no effect from the preceding applications, and the tumour being still disposed to protrude whenever the pressure was suspended, I resorted to nitrate of silver in substance, and applied it freely over the prominent surface; I also employed firmer pressure, which I effected in the following manner. Several thicknesses of woven lint being cut into the exact shape of the convex surface of the tumour, were placed in contact with it; upon these a plate of lead of the same shape was placed, and over the whole a folded compress was secured by a bandage nicely adjusted; in this way the pressure was exactly circumscribed within the required limits.

Twenty-fourth day.—(18th of the hernia.) Under the daily application of the nitrate of silver, the surface of the tumour assumed a better aspect; there now appeared in the middle of it a fissure, one inch in length, into which a probe could be passed three-fourths of an inch in depth; from this narrow cavity, which seemed to be an abscess, pus flowed freely whenever he coughed or was excited.

Without detailing further the daily progress of this case, I would state in a summary way, that the abscess already described, and which was seated either in a fissure between two convolutions, or in the cerebral substance itself, was obliterated in a few days. The same treatment was continued nearly two months, a superficial laminar slough, produced by the caustic, coming away with each dressing. The tumour was kept below the surface of the brain by the pressure of the dressings, but would protrude above the level of the skull when left a short time without pressure; its surface was of a pale grayish colour, and yielded a semi-callous resistance to the touch. Whenever the application of the caustic was omitted for a day, the surface would put on a grayish granular appearance. During this period, small spiculæ of bone were cast off, and a considerable portion of the fragment that was elevated at the operation, exfoliated; an angular portion of the scalp also sloughed away. It is worthy of remark that the caustic gave no pain when restricted to the surface of the tumour, it was only when it spread to the surrounding granulations that he complained of pain. The cerebral functions were at no time disturbed by the pressure, nor did it cause headache. A copious discharge from the fractured thigh continued during all this time. His general condition was as favourable as could be hoped for under such circumstances; his appetite was good, his bowels regular, he slept well and had a good pulse. A generous diet with porter, and two to three grains of sulphate of quinine, daily, constituted his treatment.

After continuing the above treatment about two months, moderate pressure and simple dressings were substituted. The protruding part gradually diminished in volume, its edges coalesced with the surrounding granulations, and in about five weeks more, that part of the sore covering the aperture in the cranium, was firmly cicatrized; what remained to heal over, occupied the surface from which the integument had sloughed.

The case just related, together with 32 others collected from different sources, I now propose to analyze.

In the first place, I find that only two of all these cases, were of the female sex.

Of these 33 cases, the youngest was two and a half years old, the oldest 40; 17 were 12 years of age or under; nine from 13 to 20 years; and seven of 21 years and upwards. Hence, it appears, that over one half were under 12, and their number diminished beyond that age.

In regard to the *mode of violence*, we find that the injury of the head was produced in 11 cases by the kick of a horse; in seven, by falling from a height; in seven others, by falling and projected bodies; in two by the bursting of fire-arms; in two, by blows; in one, by a wound from a pitchfork; while in three cases, the mode is not stated.

The *seat of the wound* giving rise to this disease, occupied in 14 cases, some part of the frontal region; in 17, the parietal; and, in two, the occipital region.

The lesions that were the immediate result of these injuries, very naturally come next under consideration, and may be classified, 1st, those of the scalp: 2d, of the cranium: 3d, of the dura mater: and 4th, of the brain itself.

First, the Scalp.—In 24 cases, the scalp was more or less lacerated; in one, perforated; in three, there was no solution of continuity; while in five, no mention is made of its condition.

Second, the Cranium.—In every case, except the one where the wound was produced by a pitchfork, the cranium was broken into several fragments, which were driven in upon the surface of the brain.

Third, the dura mater.—In 21 cases, this membrane was lacerated; in one, perforated; in ten, there was no solution of continuity; and in one, no notice is taken of its condition.

Fourth, the brain itself.—In 14 cases, this organ was lacerated, and a portion of its substance discharged; in five, it was wounded without loss of substance; in one case, its surface was simply denuded; in three its condition is not noticed; and in ten, there being no lesion of the dura mater, it was not exposed to view; but from the degree of violence attending the injury, indicated by the extent of the fracture and the depression of the fragments, it is reasonable to suppose that this organ suffered more or less contusion. It is important to remark, that in the three cases in which there was no lesion of the scalp, there was, notwithstanding, extensive fracture and a considerable degree of depression of the fragments of bone, together with laceration of the dura mater, and loss of cerebral substance.

The period of the appearance of the hernia.—In 11 cases it was prior to the sixth day, in 15 between the seventh and 12th, and in five between the 12th and 25th. In one instance it appeared in eight weeks; in another the period is not stated. The earliest period of its appearance was the third day, and that in two cases only; in more than three-fourths it appeared on or before the 12th. The average date of its appearance, was the ninth day.

The hernial tumour itself.—1st. *Its dimensions* varied from half an inch in diameter to a mass measuring six, by three and a half inches upon the surface, and two and a half in thickness Between these extremes there were various gradations which may be classified as follows: of the 22 cases in which the dimensions are specified, five were of the size of a hen's egg, eight exceeded that size, and nine fell short of it. 2d. *Its nature.*—The tumour was carefully dissected, either after excision or after a fatal termination in 11 of the cases under consideration. In nine of these it consisted of cerebral substance in which the cortical and medullary tissues were distinctly recognised; in two, reported in Abernethy's work, it is described as consisting of coagulated blood of a fibrous texture; in the remaining 22, either no dissection was made, or the reports are deficient upon this point. In seven cases, the tumour took on a sloughy character; in five, it yielded a sanious and fœted discharge; in one, it bled freely on the slightest touch; in three, it was covered with pia mater; and in three others, the surface was coated with a layer of coagulated blood. In the centre of the largest tumour, a cavity was found containing about an ounce of limpid serum, lined by a transparent and glistening membrane. A pulsatory movement must necessarily have been communicated by the brain in every case, though the fact is only stated in a few.

The general symptoms, indicative of disturbance of the vascular system, and of the cerebral functions come next in order. In 23 cases, there was more or less excitement of the heart and arteries; in four, none was apparent; in the remaining six, the reports are not sufficient to admit of drawing any inferences on this head.

In 14 cases, some one or more of the following symptoms of disturbance of the brain and nervous system were present: coma, delirium, pain in the head, general irritability, and insensibility. In six, paralysis of the side of the body opposite to the injury, was superadded to the preceding symptoms, and in two, convulsions. Three cases are remarkable as presenting some striking exceptions to the general characteristics, and are, therefore, deserving of more particular notice; one of them, No. 25, from the circumstance that there was no apparent shock to the nervous system, not even as the immediate effect of the injury, though its severity was so great, that several fragments of bone, and pieces of coal, penetrated the brain, causing a discharge of three or four tea-spoonsful of its substance. In another, No. 9, the patient remained in a state of complete insensibility and general paralysis, for twenty-three days; the hernia appearing on the seventh day, and no inflammatory symptoms supervening. The third case, No. 15, exhibited a character of most frightful violence. Besides paralysis of one side, there were spasmodic actions of the muscles of the face and of all the limbs; nausea, retching, quivering of the eye-lids, fixed eye-balls, strabismus, grinding of the teeth, alternate contraction and dilatation of the pupils, intolerance of light and sound, and other signs of the most alarming nervous commotion, often threatening to terminate life. Eight of the cases furnish no details under the head of general symptoms.

I have found that in one of the ten cases, in which the dura mater *was not lacerated*, the general symptoms were aggravated on the appearance of the hernia. In two, coma, stupor, and restlessness all ceased at the moment of its protrusion, while no change was apparent in the remaining seven. In one of the twenty-three cases *accompanied with laceration* of this membrane, symptoms of compression that already existed, were increased on the appearance of the hernial tumour; in another, its appearance was attended with convulsions; and in a third, with restlessness and delirium, while in the remaining twenty, there was no change of symptoms.

Termination of the disease.—Of the thirty-three cases in question, seventeen recovered, and sixteen terminated fatally. Of the latter, the extreme periods of their duration, dating from the time of the injury, were seven, and forty days: the average, twenty-four days. If we date from the appearance of the hernia, the extremes were two days, and thirty-six; the average, fifteen. The extreme ages of the subjects in which it proved fatal, were six years, and forty years; the average age, eighteen. In one case, tetanus occurred on the twenty-fourth day of the accident, and proved fatal on the fortieth. As to the duration of the cases that *recovered*, it would be impossible to make a correct estimate, it is stated so indefinitely; however, three weeks, and four months, may be given as the extreme periods within which cicatrization took place. The extreme ages of the successful cases were two and a half, and thirty-six years; average, fourteen. On a review, it will be noticed, that the probabilities of recovery are in favour of youth. This is further evident from the fact, that of the seventeen successful cases, twelve were of the age of twelve years, or under; and three, eighteen, or under; while of the sixteen fatal cases, five only were of the age of twelve years or under, and six between that age and twenty.

Pathological appearances on dissection.—Eleven of the sixteen fatal cases were examined, and presented the following lesions: in eight cases, the portion of *the brain* subjacent to the hernia, was softened, pulpy, more or less disorganized, and sometimes intermixed with coagula, while in the description of the remaining three, no notice was taken of its condition. In eight cases, there were signs of acute inflammation of *the arachnoid membrane*, indicated by the following appearances—thickening, opacity, adhesions to the dura mater, and lymph or pus deposited upon its external surface, or beneath it.

The portion *of the dura mater* surrounding the opening through which the hernia protruded, was thickened, black, and sloughy, in three of the eleven cases in question. In four, the ventricles were filled with bloody serum; in one, there was a large abscess in the brain filled with pus, and lined with a false membrane an eighth of an inch thick, and of a light brown colour. In one case, a clot of blood was found between the dura mater and the cranium; in four, the fracture extended through the base of the skull; and in one of these, the edges of the bony aperture, through which the hernia passed, were absorbed, and thinned off on their inner surface. Of the above lesions, those of the brain and its investing membrane are undoubtedly the most important. It is worthy of remark, that of the eight cases in which lesions of the cerebral substance were observed, six exhibited at the same time, a diseased state of the arachnoid membrane, its condition not being noticed in the remaining two. Also, of the eight cases in which the arachnoid was found inflamed, six presented lesions of the brain itself, while in the remaining two, no mention was made of its condition.

Treatment.—In respect to the general treatment, it was uniformly antiphlogistic, consisting of the abstraction of blood locally and generally, and purging, proportioned to the urgency of the inflammatory symptoms. Case No. 25, already alluded to, under the head of general symptoms, formed a remarkable exception, as nothing was necessary but abstinence, quiet, and gentle aperients. The *local treatment* consisted of excision of the hernial tumour, ligature, pressure, and caustics, employed singly, or together.

In one of the *seventeen cases that resulted favourably*, a spontaneous cure took place after copious hemorrhage from the hernical tumour, excited by an accidental attack of vomiting. In another, after the ineffectual use of nitrate of silver and other escharotics, *the ligature* was applied and gradually tightened from day to day; in five, *pressure* alone was sufficient; in two, this was conjoined with the application of aqua calcis, and in one with nitrate of silver. In seven other favourable cases, *excision* was resorted to, either once or repeatedly, accompanied with pressure; in some, dilute nitric acid (gutt. xx ad ℥j), aqua calcis or nitrate of silver were employed besides.

In the sixteen cases that terminated fatally, the local treatment was as follows: in two, *pressure* alone was used; in five, *excision* with pressure; in two, the *ligature;* in one, both ligature and excision, and in another, *caustics;* while in five, no mention is made of it.

It will here be interesting to inquire, what were the immediate sensible effects of these different modes of treatment?

In a few cases, the slightest *pressure* could not be supported without disturbance of the cerebral functions; in most however, a moderate degree, was borne without any unpleasant consequences; in two, it was carried so far as to bury the compresses beneath the surface of the brain, without injurious effects.

Excision was employed in twelve cases, and the result establishes the remarkable fact, that the brain is endowed with a low degree of sensibility, even when in a state of inflammation, for in one instance only, did the patient manifest signs of considerable pain. In another, No 22, this fact was put to the test by the rude proceedings taken to suppress the growth of the hernia. In the language of the report, "it was handled without occasioning any uneasiness and was torn away on a line with the cranial bones, without any perceptible effect." Further on it states: "the fungus had been shaved off without success, and the surgeon now began to dig it out from considerably lower than the level of the cranium." At a later period the report proceeds: "it was again shaved off by the scalpel, without obvious benefit or injury." The hemorrhage accompanying excision was commonly not very abundant. In one case only, did it threaten alarming consequences; in four it was considerable, but easily controlled by pressure, or subsided spontaneously. While in the remaining seven, it was not sufficient to occasion any remark.

In the four instances in which the *ligature* was employed, it produced neither pain nor disturbance of the cerebral functions.

Neither pain nor any other unpleasant symptom followed the use of *caustics*.

In investigating this disease, I have felt at every step, the need of further details upon many important points, in the reports of almost all the above cases; but have endeavoured to exhibit only such facts as can be fairly deduced from them. For the assistance of such as may be disposed to pursue the subject further, I will point out the sources from which these materials have been derived; before doing this, I will add a few additional remarks.

We find that the loss of a portion of the cranium is the only condition essential to the production of this disease. The unyielding nature of the bone prevents its being pushed forward, as in hernia of other viscera enclosed by soft parietes. Thus it is met with in the earlier periods of life, before the fontanelles become ossified, and it sometimes occurs in adults without previous injury, where the removal of a portion of the skull has been effected by disease, as in cases of caries from syphilis. The dura mater alone, though unbroken, does not afford sufficient resistance to prevent the protrusion of hernia, which first pushes it on before it, and then perforates it by an ulcerative process. Nor does this disease invariably follow, where circumstances most favourable to its production, such as laceration of the brain and loss of its substance, exist; the records of science and the experience of every surgeon of extensive observation, furnishing a sufficient number of exceptions. On a careful examination of the reports of sixteen cases of injury without hernia, I have not been able to detect any peculiarities in the primary injury. Nor does a comparison of the symptoms indicative of cerebral inflammation, show the reason of its appearance in some and its absence in others; we find in both, inflammation existing in various degrees. In regard to the nature of this disease, the testimony derived from a careful dissection of the tumour itself, is in favour of its cerebral character. Abernethy's two cases are the only exceptions: in those cases in which no dissection was made, the opinions of the observers were in favour of this view of its nature. In case No. 2, Pring describes a fungus growth as preceding the appearance of the hernia, arising from the same spot, but very different in its character; after being excised, the true hernia sprouted up in its place. In case No. 15, the hernial tumour, which had already existed a few days, and was obviously of a cerebral nature, presented at its extremity a small fungus excrescence over a part which had been injured by a fragment of bone; these morbid growths were probably exuberant granulations from the cellular tissue of the pia mater. May not this disease be considered as a salutary resource of nature to relieve the brain (often only temporarily) from the compression, which, an increased afflux of blood, or the deposition of inflammatory products would otherwise occasion, and by which the functions of this organ would be speedily interrupted?

The seventeen successful cases, out of the thirty-three reported, exhibit a more favourable result than corresponds with general experience in this disease; owing, no doubt, to the greater proportion of favourable than of unfavourable cases that are made public. Mr. Mallett's report, published in the 7th volume of the Transactions of the Provincial Med. and Surg. Association, shows a degree of success without parallel; all his cases, four in number, recovered. None of the different methods of local treatment employed, can be of universal application. Pressure may be resorted to on its first appearance, and must be graduated according to the effects on the cerebral functions; if this alone should not prove sufficient to repress its growth, caustics or excision may be resorted to, according to the degree to which the hernia is disposed to protrude. If it has attained a considerable size and expanded out beyond the dimensions of the aperture, so as to render its return within the dura mater impossible, no time is to be lost in its removal by excision, which is always to be preferred to ligature. It should be borne in mind, that nature alone is sometimes adequate to the removal of this diseased growth; this is effected either by the sloughing process, or by spontaneous subsidence. As this disease depends upon inflammatory action within the cranium, the general treatment is of the greatest importance, and without entering into details on this subject, I would remark, that copious abstraction of blood from the head itself should hold a very prominent place. A careful consideration of cases No. 19 and 29, furnishes this practical suggestion; that where the dura mater is unbroken, and pushed up into the wound, symptoms of compression being at the same time present, an opening should be made without delay, in order to allow egress to the hernia, or to matter confined beneath.

To prevent hernia cerebri, where fracture of the cranium and laceration of the dura mater give reason to apprehend its formation, the method of treatment recommended by Professor N. R. Smith,* is perhaps the best.

The mechanical support of the brain being removed, something should be substituted, which, like the cranium, merely resists without making pressure upon this organ. A hard, unyielding material, susceptible of being accurately moulded to the part, must be employed; layers of wet pasteboard cut at the edges answer the purpose very well. Before applying them, a soft pledget of lint spread with simple cerate should be laid into the vacuity over the brain, and upon it a compress of the size of the opening. The pasteboard soon dries and forms a hard shell, which, when it becomes necessary to renew the dressings, may be removed entire and reapplied in the same manner as at first.

After recovery from fracture with considerable loss of bone, there is danger of rupture of the integuments and protrusion of the brain on making violent efforts. This happened to a girl of 13 years of age, who had had a fracture of the skull that left an opening of four inches in diameter, and was attacked, nine months after recovery, with an epidemic convulsive cough, which became so violent, that during a paroxysm the cicatrix of the head ruptured and two ounces of brain were discharged.†

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* Med. and Surg. Memoirs, with addenda, by Nathan R. Smith, Baltimore, 1831.

† Medical Essays and Observations, by a Society in Edinburgh 1771.

The cases that have formed the basis of the above Essay are as follows:

No. 1.	Medical Examiner: Philadelphia,	Vol.	I.	No. 18.	p. 292
No. 2.	Edinburgh Med. and Surg. Jour.	Vol.	IX.		p. 14
No. 3.	do. do. do.	Vol.	XII.		p. 22
No. 4.	The Lancet,	Vol.	II.	1831—32.	p. 605
No. 5.	do.	Vol.	II.	1827—28.	p. 702
No. 6.	London Medical Repository,	Vol.	III.		p. 481
No. 7.	do. do. do.	Vol.	VII.		p. 273
No. 8.	do. do. do.	Vol.	VIII.		p. 390
No. 9.	do. do. do.	Vol.	VIII.		p. 394
No. 10.	do. do. do.	Vol.	VIII.		p. 396
No. 11.	do. do. do.	Vol.	VIII.		p. 396

To prevent this, the part may be protected by means of a metallic plate accurately adjusted and kept in place by suitable bandages.

No. 12.	London Medical Repository,	Vol.	VIII.	p. 397
No. 13.	do. do. do.	Vol.	IX.	p. 283
No 14.	American Journal of the Med. Sciences,	Vol.	III.	p. 349
No. 15.	Phila. Jour. of the Med. and Phys. Sci.	Vol.	XII.	p. 206
No. 16.	Medico Chir. Transactions,	Vol.	VIII.	p. 14
No. 17.	do. do. do.	Vol.	VIII.	p. 18
No. 18.	do. do. do.	Vol.	VIII.	p. 22
No. 19.	do. do. do.	Vol.	VIII.	p. 39
No. 20.	London Medical Gazette,	Vol.	I.	p. 17
No. 21.	do. do. do.	Vol.	V.	p. 319
No. 22.	Medico Chir. Review, New Series,	Vol.	XVI.	p. 518
No. 23.	Abernethy's Works: London, 1830,	Vol.	II.	p. 51
No. 24.	do. do. do.	Vol.	II.	p. 54
No. 25.	Transactions of the Provincial Med. and Surg. Association: London, 1839,	Vol.	VII.	p. 345
No. 26.	do. do. do.	Vol.	VII.	p. 346
No. 27.	do. do. do.	Vol.	VII.	p. 347
No. 28.	Dorsey's Elements of Surgery,	Vol.	I.	p. 309
No. 29.	do. do. do.	Vol.	I.	p. 311
No. 30.	Cooper's, Sir A. Lectures: Phila. 1835,			p. 162
No. 31.	do. do. do. do.			p. 163
No. 32.	do. do. do. do.			p. 164
No. 33.	Reported in this Essay.			

HOSPITAL REPORTS.

Report of Surgical Cases, treated in the New-York Hospital, during the month of January, 1840, (*read before the New-York Medical and Surgical Society.* By Alfred C. Post, M. D., one of the Surgeons of the Hospital.

The department of the hospital in which the cases were treated, which form the subject of the present report, consists of seven wards, which are capable of accommodating from 70 to 80 patients. One of these wards is appropriated to white females, and another to coloured males; the remaining five, to white males. The wards are spacious and well ventilated; and, with a single exception, each is provided with a convenient bathing apparatus, and water closet.

The number of patients on the first of January, was 54. The number admitted during the month 32. The whole number under treatment 86. Of these, there were born in the city of New-York, eight. State of New-York, four. Massachusetts, one. Vermont, one. Connecticut, three. New Jersey, two. Pennsylvania, three. Maryland, one. Virginia, five. Kentucky, two. The United States, (State not mentioned,) four. Canada, two. The West Indies, three. Nova Scotia, one. South America, one. England, eight. Scotland, two. Ireland, twenty-nine. France, two. Germany, one. Austria, one. Denmark, one. Poland, one.

The ages of the patients were as follows:

Under ten years, one.

Between ten and nineteen years, nine. Twenty and twenty-nine, thirty-five. Thirty and thirty-nine, eighteen. Forty and forty-nine, fifteen. Fifty and fifty-nine, five. Sixty and sixty-nine, two. Seventy and seventy-nine, one.

Fifteen of the patients were females, of whom seven were married, and eight unmarried. Seventy-one were males, whose conditions were as follows:—Boys, two. Seamen, twenty-one. Labourers, seventeen. Shoemakers, three. Tailors, two. Printers, two. Farmers, two. Bookbinder, one. Merchant, one. Mason, one. Harness-maker, one. Sugar-boiler, one. Porter, one. Carpenter, one. Wheelwright, one. Joiner, one. Currier, one. Soldier, one. Fisherman, one. Furrier, one. Baker, one. Machinist, one. Clerk, one. Coachman, one. Nurse, one. Tobacconist, one. Engineer, one. Unknown, two.

The following were the diseases or injuries, for which they were treated:—Ulcers of the leg, twelve; of the thigh, one; over the patella, one; of amputated stump, one. Wound—of scalp, one; lung, one; forehead (lacerated,) one. Contusion—of elbow, one; foot, one; back, one. Fractures—of the clavicle, one; arm, one; forearm, three; thigh, five; neck of the thigh, one; of the leg, two; of the ribs, one. Compound fracture of the forearm, one; patella, penetrating the knee-joint, one. Dislocation of the shoulder, one. Burns, three. Frosted fingers, two; toes, five. Inflammation of the synovial membrane of the knee joint, two. Inflammation of the cornea, one; of the periosteum, one. Chronic inflammation of the tarsal articulations, one. Psoriasis, one. Scirrhus of axillary glands, one. Erysipelas, three. Tenderness of stump, one. Œdema, one. Hydrocele, two. Hernia, one. Syphilis, fourteen. Gonorrhea, six. Bubo, after gonorrhea, one. Balanitis, with phimosis, one. Stricture of the urethra, one. Contracted pupil, and impaired vision from iritis, one. Aneurism of the subclavian artery, one. Necrosis of the tibla, one. Deformity from badly united fracture of the leg, one. Talipes equinus spurius, one; varus, one. Permanent flexion of the knee-joint, one.

During the month, twenty-four patients were discharged; of whom eighteen were cured, two relieved, two died, and two were discharged at their own request.

I propose briefly to glance at some of the diseases, and injuries, which came under treatment; and to give a more detailed account of a few of the most interesting cases. Most of the cases of ulcers of the leg were chronic; and at the time of their admission, presenting the character which is so common in persons of intemperate habits; being somewhat deeply excavated, with livid and indurated edges, and constantly irritated by exercise, intemperance, and filth. The usual treatment resorted to in these cases, consisted in absolute rest in the horizontal posture, and the application of emollient poultices, until the inflammation was subdued, and the granulating process was established. The sores were then dressed with lint spread with cerate, or basilicon ointment, and roller bandages were applied from the toes up to the knee. Occasionally more stimulating ointments were applied, such as ung. Peruv., made by mixing the balsam of Peru with basilicon ointment, ʒj to ℥j; ung. argent. nitrat., grs. x. to ℥j. In three instances, the edges of the sores were drawn together by means of adhesive straps. There were several ulcers of a cachectic character, which were benefited by the internal use of iodide of potassium, given in doses from five to ten grains, three times a day.

Case I.— Wound of the right lung.—CATHARINE GRIFFITH, an Irish woman 40 years of age, was brought to the hospital, on the evening of the 10th January, with a wound in her back, which had just been inflicted by her husband, with a knife.

THE wound was about an inch to the right side of the fourth dorsal vertebra: its direction was transverse, and it was about an inch in length. A probe was passed into the wound, several inches downward, and inward; but in consequence of the pain which it occasioned, the exact depth of the wound was not ascertained.

The patient stated that, immediately after the wound was inflicted, she was conscious of a whizzing noise in breathing, and she expectorated a quantity of blood. On her admission, she was pale and cold, and very restless; her pulse quite feeble. She vomited a quantity of florid blood, and expectorated a similar liquid at short intervals. She had at this time no cough nor emphysema. Diagnosis, wound of the right lung.

The wound of the integument was brought together with adhesive straps, and a broad bandage applied around the chest. Warm wine sangaree was given immediately, and two grains of carbonate of ammonia with a drachm of spirit of camphor directed to be given every hour, until reaction should take place.

Jan. 11th. General appearance improved; pulse 100, and small. Complains of much pain in the right side of the thorax; respiration on right side of thorax feeble, and attended with a mucous rattle. Expectoration of blood is diminishing. Ammonia and camphor continued, but at longer intervals, until six, P.M. when moderate reaction was found to have taken place, and the stimulants were dis continued.

Jan. 12th. Continues comfortable; pulse nearly natural; pain in side somewhat diminished. Her bowels not having been moved since her admission, a dose of castor oil was administered, and followed in the evening by a laxative enema, after the operation of which she appeared better.

Jan. 15th. Continues to improve. Since the day after the injury, she has had a cough, attended with expectoration of frothy mucus, which was at first streaked with *blood*. There has been no febrile reaction, and the force of the pulse has been rather below the standard of health.

Jan. 23rd. A large blister applied over the right and posterior side of the thorax, by which the pain was relieved.

Jan. 25th. The patient was cupped over the blistered surface with still further relief. For a number of days past, the posterior part of the thorax on the right side, has yielded a dull sound on percussion, and the respiration over the same region has been nearly inaudible.

March 4th. Since the last report, the condition of the patient has not essentially altered. The right side of the thorax is more prominent than the left, at its posterior and inferior part; resonance dull, and respiration very feeble, compared with that of the opposite side. There is still some cough, without any remarkable degree of dyspnœa, or of pain in the chest. General health continues feeble.

The case of *fracture of the clavicle* occurred in an Irish labourer, 35 years of age; the fracture was toward the acromial extremity of the clavicle. The patient was kept on his back during the whole treatment, and had his arm kept in a sling, and bound to his side. The fracture united in five to six weeks, and with very little deformity. I think that great advantage is derived, in the treatment of this accident, from keeping the patient in a recumbent posture. This mode of treatment is much more comfortable to the patient, as it enables him to dispense with much of the irksome and painful apparatus which is otherwise required, and it usually results in a union of the fractured bone, with a slighter degree of deformity.

The fracture of the arm was treated with starched bandages, which secure a more uniform support, and a more perfect immobility, than any other apparatus. The fractures of the thigh were treated in the extended position, and with favourable results. An improvement has recently been introduced in the mode of making extension, viz. by sowing the extending bands on each side of the leg, to the turns of a roller previously applied to the limb. By this means the pressure is equalized, and troublesome excoriation and ulceration, or even sloughing, is prevented.

The fractures of the leg were treated by means of starched bandages, with great comfort to the patients.

The compound fracture of the bones of the forearm, occurred in an Irish labourer, 30 years of age, in consequence of a heavy body falling upon the part. The accident took place six weeks before his admission into the hospital. Before his admission, the limb had become affected with erysipelas phlegmonodes, and deep-seated suppuration. While he was in the hospital, a piece of the lower part of the radius was removed in a state of necrosis, about four and a half inches in length, and involving nearly the whole thickness of the bone. After his admission, the forearm was loosely placed in a concave tin splint. After the swelling had subsided, and the necrosed bone been removed, wooden splints were applied, and secured with bandages in the ordinary way. In the early part of February, starched bandages were applied.

March 4th. I took off the bandages, and examined the limb; and found that no bony union had taken place: I directed the starched bandages to be reapplied.

Case II.—The case of compound fracture of the Patella penetrating the Knee-joint, was one of remarkable interest. The following is a brief history of the case:—

Miles McFarland, an Irish labourer, 26 years of age, was engaged in blasting a rock on the 12th October, 1839, when an explosion took place, producing a compound fracture of the left patella, extending into the knee-joint. He was admitted into the hospital on the same day. Synovia was seen to escape from the wound. The injury was followed by severe constitutional irritation, and by sub-fascial inflammation and suppuration. Deep and extensive incisions were required to give issue to the purulent matter which was formed: for several weeks, the recovery of the patient appeared very doubtful. The following notes of the case were taken in January, 1840, three months after the injury. The wound is healed: the fragments of the patella are separated to the extent of about an inch, there being no bony union between them; the upper fragment is much larger than the lower one. The patient is able to flex the knee only to a slight extent; when it is so flexed, he can straighten it again by the action of the extensor muscles. He can stand, but cannot bear much weight on the left leg without pain. He has no pain when he lies still, nor even when moderate pressure is made upon the knee. A slight sore remains on the outer part of the thigh, where an opening was made to give issue to purulent matter. The patient walks about on crutches.

March 3d. He continues to improve.

In a paper which I formerly read before the Society on wounds of the knee-joint, I communicated the details of two cases of compound fracture of the patella extending into the cavity of the knee-joint, in both of which the patients recovered, without the severe train of symptoms which followed in the case of McFarland. These cases, in connection with two others referred to in Cooper's Surgical Dictionary, as having occurred in St. Bartholomew's Hospital, go to establish the general principle that an attempt should be made, in all such cases, to save the limb.

Of the three cases of *burns*, two were in females, and both originated from the clothes taking fire. They were both extensive and severe, and one of them was fatal.

Case III.—Elspeth Reed, a native of Scotland, 39 years of age, was brought to the hospital on the 14th January, 1840, at nine and a half o'clock, P. M.

An extensive burn covered the whole of the anterior and posterior part of the trunk above the umbilicus, as well as the throat and arms. It was occasioned by her clothes taking fire from a candle about an hour and a half before her admission. The parts were very deeply burned, especially over the arms, shoulders, and anterior part of the thorax, where the integument was crisp and brown almost to blackness, and the subjacent parts were seriously injured. I saw the patient about an hour after her admission, when I found her sitting upright in her bed, extremely restless, constantly retching and vomiting, and incessantly calling for cold drinks, which she took with great avidity. Her feet and hands were cold, and her pulse at the wrist, imperceptible.

Treatment.—Cold water was, at first, permitted to be taken freely; but as it seemed to increase the vomiting, and to add to the urgency of the thirst, it was afterwards prohibited. Small portions of ice were directed to be given at short intervals. Effervescing draughts and tincture of opium were also given, but everything was rejected. The whole surface of the burn was smeared with a liniment of lime-water and linseed oil, and thickly covered with raw cotton.

Jan. 15th. Restlessness somewhat diminished; vomiting and thirst continue unabated. The intellect seems unimpaired; the feet have become warm. After the middle of the day, the intervals between the fits of vomiting became longer. Lime-water, combined with milk, seemed to have a favourable influence in diminishing the irritability of the stomach. The integuments of the arms have cracked in several places.

Jan. 19th. The integuments and the subjacent tissues have sloughed to a considerable extent. There has been very little apparent sensibility in the parts which were burned. Occasional vomiting still takes place. The patient continues rational.

20th. The patient died rather suddenly.

The local application which I have most frequently employed in the treatment of severe burns, is the liniment of lime-water and linseed oil, and its use has almost uniformly been attended with the happiest effects. Where sloughing has taken place, I have used with advantage the Peruvian ointment.

The frosted fingers and toes which came under treatment, were all in negroes. Where the skin was not broken, nitrate of silver was applied to the whole surface, which was previously moistened with water. In cases in which the skin was ulcerated, emollient poultices were applied for a few days, and the sores were then dressed with simple cerate. Under this treatment, prompt relief was usually afforded.

Of the two cases of *hydrocele*, one existed in a patient who was under treatment for a sloughing chancre on the scrotum; the hydrocele was therefore treated only by the palliative method. The other was a case of double hydrocele of long standing. The fluid on the right side was evacuated by means of a trocar and canula, and tincture of iodine diluted with water, (two drachms of the tincture to six drachms of water,) was injected into the sac. The disease on the right side appears to be completely cured; the tumour of the left side has not yet been operated on.

Several of the cases of *syphilis* were of the phagedenic and sloughing character, which seems to have been imparted to them by the premature employment of mercurial remedies. There is scarcely any practice more injurious in the treatment of venereal diseases, than the early and indiscriminate exhibition of mercury. It aggravates the inflammatory symptoms, promotes ulceration and sloughing, and prevents or retards the reparative process.

A mild, soothing, and antiphlogistic treatment is much better adapted to the earlier stages of the disease, which would be shorn of half its horrors, if a rational method of treatment were universally pursued.

In those cases of syphilis which were attended with cachectic symptoms, I employed the iodide of potassium with beneficial results. This valuable remedy appears to be getting more and more into favour with the profession; as multiplied experience demonstrates more fully its salutary agency. And there is perhaps no disease in which its utility is more decided and more obvious than in the irregular forms of syphilis.

Case IV.—Aneurism of the right subclavian artery. (I am indebted to my colleague, Dr. Buck, for the early history of this case.) Francis Waydock, a negro, born in New-Jersey, aged 63 years, of large frame and robust constitution, was admitted into the hospital on the 18th day of October, 1839.

About five months before his admission, while he was suffering from inflammation of his right hand, caused by aqua fortis with which he was working, a small pulsating tumour, of the size of a walnut, made its appearance in the axilla. This tumour continued to increase, and to extend towards the anterior edge of the axilla. About three months after its first appearance, he had a fall on his right shoulder in consequence of his foot being caught in a rope. This was followed by very severe pains in the whole arm and shoulder, and by the more rapid growth of the tumour.

Present condition, Oct. 23d, 1839. Aspect of his countenance calm and even cheerful—decubitus dorsal. Pulse 76, regular, soft and full. Tongue pale and slightly coated. Appetite pretty good. The tumour forms a prominence rising about an inch and a half above the level of the surrounding surface, and spreading out into a large base of about five or six inches in diameter, extending from the lower edge of the clavicle to the margin of the axilla; a part of it extends above the clavicle, where it forms a slight prominence. The finger can be burried between the tumour and the origin of the sterno-cleido-mastoid muscle, so as to feel the pulsation of the carotid and subclavian arteries near their origin. A distinct pulsation and thrill are felt in the tumour, both above and below the clavicle; but it is more marked and distinct above than it is below; it is synchronous with the pulse at the left wrist, that at the right not being perceptible. No pulsation is felt in applying the hand over the region of the heart. The pulsation of the brachial artery in the axilla is very feeble, so much so that it is doubtful whether it can be felt at all. A bellows sound is heard in the tumour, and in the course of the innominata towards the heart. Motion of the right arm occasions pain in the situation of the tumour. The patient lies with his head and shoulders elevated, but has no palpitation nor dyspnœa. He suffers at times considerable uneasiness and pain in the tumour, and thinks that it continues to increase; he has been largely bled since his admission, and kept on low diet.

Oct. 26th. An explorative operation was performed to determine the condition of the subclavian artery and innominata, with the intention, if the arteries should be found healthy, to apply ligatures to the subclavian and carotid arteries near their origin. A transverse incision was made three inches in length, extending outwards from the sternal extremity of the clavicle. A perpendicular incision about the same length was made near the inner edge of the sterno-cleido-mastoid muscle. The integument and platysma myoides were dissected up; the sternal origin of the sterno-cleido-mastoid muscle divided and turned outward, and its clavicular origin partly divided; the sterno-hyoid muscle was drawn towards the left side. The divided parts were separated by fingers and blunt instruments, and the innominata, carotid and subclavian arteries brought into view. The innominata was found to be so much enlarged that it was deemed inexpedient to apply a ligature to it or to its branches. The wound was accordingly dressed in the usual manner, and the patient put to bed.

Oct. 29th. Since the operation, the patient has suffered considerably from cough, and he has sometimes been affected with dyspnœa. He was bled the day after the operation. The tumour appears to be on the increase, pulse 88, strong and bounding.

Jan. 19th, 1840. Since the last date, the patient has been kept on his back, has been occasionally bled from the arm, and has been directed to confine himself to low diet. He has however not conformed himself very strictly to the last direction. Until within the last three or four weeks, the tumour appeared to be rather on the decline: it was less prominent than before the operation, it appeared more solid, and its pulsations were much more obscure. But about the beginning of the present month, it began again to increase rapidly in size, and to point toward the axilla, where fluctuation became distinct, indicating the vicinity of the liquid blood within the sac, to the surface of the skin. The pain also became much more severe than it had been before. The œdema of the right superior extremity which had existed for some time, increased to an enormous extent. He died to-day, being exhausted by his continued sufferings.

Jan. 20th. *Autopsy.*—The viscera as far as they were examined, were in general in a normal condition. One of the semilunar valves of the aorta, was found to be partially ossified. Some atheromatous deposites were found beneath the lining membrane of the arch of the aorta, and of the innominata. The lining membrane of the innominata was ulcerated over one of these deposites. The innominata and the commencement of the right subclavian artery, appeared to me larger than in their normal condition. There were two aneurysmal sacs. The first of these was of a small size, being about an inch in diameter, and communicated with the subclavian artery behind the clavicle, and a little more than an inch beyond the origin of the great branches of the subclavian. The second sac was immediately beyond and below the first, and was of a large size, being about six inches in its longest diameter and four inches in its shortest. The brachial artery made its exit from the side of the large sac, about two inches from its upper extremity. Between this point and the commencement of the first sac, the artery seemed to be interrupted and no trace of it could be found, unless the sac could be regarded as an expansion of its coats. The axillary nerves, veins, and lymphatics, were imbedded in the parietes of the sac.

Deformities of the bones and articulations have recently attracted a large share of attention from the medical profession, and extraordinary improvements have been made in their treatment. Distortions, which but a few years ago were regarded as utterly incurable, are now successfully treated. This happy result is to be attributed to the combination of gradual mechanical extension, with the division of such muscles or tendons as are concerned in the production, or the maintenance of the deformity. I shall conclude this report with the details of the treatment of two cases of deformed limbs, viz. one case of club-foot, and one of permanent flexion of the knee-joint.

Case V.—JOHN BORLAND, tobacconist, born in New-York, aged 35 years. Admitted Jan. 14th, 1840, with a congenital deformity of the right foot.

WHEN he stands, his right knee nearly touches that of the opposite side, and his legs diverge from each other. The only part of the right foot which touches the ground, is the plantar surface of the toes, and of the anterior extremity of the metatarsus, towards its outer side, where there is a troublesome and painful corn. The foot is inverted, so that its anterior extremity looks towards the left foot. The inner edge of the foot is very concave, and the outer, convex in a corresponding degree. The tendo achillis is prominent and tense. The minimum elevation of the heel, as he stands, is 3⅞ inches. The external malleolus and the outer side of the anterior extremity of the astragalus are very prominent. There is no visible prominence in the situation of the internal malleolus. The right limb, as measured from the anterior superior spinous process of the ilium to the lowest part of the inner ancle, is a quarter of an inch shorter than the left. There is very little rotatory movement at the hip joint. He cannot walk except with a shoe having a very high heel, and he then rolls his foot over so as to tread in part on its outer edge. When he walks, the heel comes nearer to the ground than when he stands. In walking, he turns inward the toes of the left foot, as well as those of the right. But he has the power of turning the left foot out at pleasure.

Jan. 17th. I divided the tendo Achillis from behind forward, with a narrow straight bistoury. A few drops of blood escaped from the wound, the edges of which were then brought together by adhesive plaster, and a roller was applied to the limb.

Jan. 20th. Since the division of the tendon the patient has complained of slight tenderness on pressure, in the situation of the wound. This morning I removed the dressings, and found the wound quite healed. I reapplied a roller, and placed the limb in the apparatus which is known as Dr. Detmold's modification of Stromeyer's foot-board. By means of this instrument, the heel was gradually brought down to its proper level, and the adduction and inversion of the foot were much diminished. The patient complained of continual pain, which, at times, became very severe. The pain was much more severe in a recumbent, than in a sitting posture; so that the patient was induced to remain all night in a chair, in preference to lying down. This is in accordance with what I have usually observed in similar cases. I found it necessary to administer anodynes at night, on account of the pain and restlessness which he experienced. On the 4th of February, I removed the foot-board, and substituted Scarpa's shoe.

Feb. 12th. Since the substitution of Scarpa's shoe for the foot-board, the patient has been much more comfortable: the inversion and adduction of the foot have become less; but the heel has again become a little elevated. To-day I fastened a band to the digital end of the shoe, and secured the other end of the band to the strap below the knee; thus binding the foot fully to a right angle, and bringing down the heel. The patient complained of much pain.

Feb. 14th. The pain has continued quite severe since the application of the band to flex the foot on the leg; so that he has scarcely been able to obtain any sleep. Ordered opium pills at night.

Feb. 25th. Within two or three days after the last report, the pain ceased, and a great improvement has taken place in the form of the foot, as well as in the facility of walking. He has thrown aside his crutches, and now walks with the assistance of a cane; but his motions are still very awkward, both the lower extremities being rotated inward, at the hip-joint.

Feb. 28th. He continues to improve, and is now able to walk without a cane.

Case VI.—James Clinton, a native of Ireland, 7 years of age. Admitted into the Hospital on the 28th January, 1840, with the left knee permanently flexed, nearly to a right angle.

The joint was extremely rigid; and it admitted of so slight a degree of motion, as to lead to the suspicion of anchylosis. When an attempt was made to extend the limb, the hamstring tendons became very firm and prominent.

About six months before his admission, he had a fall upon the pavement, from a cart on which he was riding, and bruised the left knee. In consequence of the accident, he was confined to the house more than a week; during which time, blisters were applied. When he commenced going about again, his limb was straight; but it soon became flexed; so that when he walked, no part of the left foot but the toes came into contact with the ground. In the course of a month, the degree of flexion was so great as to prevent him from walking.

Jan. 31st. I divided the tendons of the hamstring muscles, with a narrow straight bistoury.

March 7th. A few days after the division of the tendons, the limb was placed in an apparatus, consisting of a splint adapted to the posterior part of the thigh, and another to the posterior part of the leg; connected together with a screw, in such a manner, that by turning the screw, the knee could be extended.

The limb remained in this apparatus nearly four weeks, during which time gradual extension was effected, until the leg was brought nearly into a right line with the thigh. But in consequence of the heel becoming ulcerated, it was necessary to remove the apparatus. After the healing of the ulcer, the extension may be resumed.

Report of Cases of Organic Disease of the Heart, and of other Diseases occurring in the Medical Wards of the New-York Hospital, during the year 1839. By E. T. RICHARDSON, M. D., Senior Walker.

Case I.—Hypertrophy of the Heart. Cerebral Apoplexy. THOMAS HAYWOOD, a coloured seaman, 40 years of age, very stout and plethoric, entered the New-York Hospital, Dec. 10, 1839.

FOUR weeks ago, he entered the house for hemiplegia of the right side, and involuntary twitching of the muscles of the arm: the attack having been preceded by severe pain in the head. He was then freely depleted, and treated with ext. cicutæ. grs. iij., camphor gr. i. ter in die; and about a week ago was discharged cured.

At the time of his second admission, he was perfectly unconscious; frothing at the mouth; breathing, stertorous and laboured; extremities cold. Pulse hard, full, and slow, 52. Action of the heart very strong; the apex striking outside the nipple.

Diagnosis.—Apoplexy, and hypertrophy of the heart.

Treatment.—An attempt was made to bleed him at the time of his admission, but not more than an oz. of blood could be obtained. Sinapisms and heat were applied to his abdomen and extremities, and shortly afterward he was bled to the amount of ℥xxiv. Stimulating enemata were also administered. These measures had no other effect than to lessen the force and hardness of the pulse. He died in six hours after admission.

Autopsy—Brain. The dura mater adhered strongly to the arch of the cranium, particularly on the left side of the median line, where were traces of inflammation, and an appearance of extravasation having existed at some previous period. The vessels of the brain were very much distended. A large clot of blood, (about ℥iv.) was found in the left lateral ventricle, and a less quantity in the right. The walls of the ventricles were softened and broken down.

Heart.—The heart was enormously enlarged, chiefly by hypertrophy and dilatation of left ventricle. The right was nearly natural.

The following are the measurements of the heart:*

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* M. Bizot has published (Memoirs de la Société Médicale d'Observation, t. 1.) a very valuable paper on the measurements of the healthy heart, at different periods of life,

MEASUREMENTS.

Length of the heart,	6½	inches.
Breadth, "	5½	"
Breadth of left ventricle open,	7½	"
Depth, " "	4½	"
Thickness of superior third,	¾	"
" middle "	1	"
" inferior, "	⅝	"
" septum, "	1	"
Breadth of right ventricle open,	5½	"
Depth, " "	3	"
Thickness at superior 3d,	$\frac{4}{16}$	"
" middle, "	$\frac{3}{16}$	"
" inferior, "	$\frac{1}{16}$	"
Circumference of mitral orifice,	5	"
" of aortic, "	3¼	"
" of tricuspid, "	4½	"
" of pulmonary "	3½	"

The valves of the aorta had two morbid growths on them about as large as small peas, and they were slightly thickened. The mitral and tricuspid valves had also slight vegetations on their edges, not sufficient to interfere with the performance of their functions. The internal surface of the aorta was rough and irregular. The internal coat was thickened, and there were patches of earthy deposite beneath it.

The lungs and other organs were healthy.

J. M. Smith, M. D., *Attending Physician.*

and in the two sexes, founded upon the examination of a very large number of cases. The following is an outline of his method, and a statement of the average dimensions of the different parts of the adult (30 years) male, heart. "I first measured the heart as a whole; at its base, at the point where the auricles and ventricles join. I then measured the length of the organ, represented by a line passing from the apex, perpendicularly upon the base. I measured also the thickest portion of the organ. I then opened the left ventricle, by making an incision along the blunt edge of the heart, extending from the apex to the base, and beyond the orifice of the aorta. I then laid open the cavity of the ventricle, and by dividing the auriculo-ventricular orifice, I converted it into a plane surface. A line drawn along the convex and adherent edges of the sigmoid valves, and terminating in the cut edges of the parietes, gave me the circumference of the base of this cavity. A second line drawn from the summit of this cavity at right angles with the first, measured the length of the ventricle. I finally measured the thickness of the walls, at three different points, viz. first, at the base, six lines from the origin of the fleshy fibres; second, at the junction of the first and middle third; third, about four lines from the apex. I measured also the septum between the ventricles in the same manner, but without including the fleshy columns."

"In measuring the right ventricle, I proceeded in a somewhat different manner. I

Case II.—Hypertrophy and Dilatation of the Heart. Pulmonary Apoplexy. JOHN COTHICK, aged 27 years, born in England, by profession an engineer, entered the Hospital Dec. 6th, 1839.

SYMPTOMS.—Very great general anasarca; laboured respiration; feeble and frequent pulse. Action of the heart very violent and tumultuous, impulse felt nearly all over the chest. The sounds of the heart heard distinctly over most of the chest, and both accompanied by a "*bruit de soufflet.*"

History.—Nothing of his early history was learned farther than that the anasarca and extreme dyspnœa, have come on within two weeks. Previous to that time, he had been able to perform his duties as engineer of a steam ship. Since this attack, he has expectorated blood. No treatment of any importance was pursued while on ship-board.

Diagnosis.—Hypertrophy and dilatation, with valvular disease.

7th. No special treatment was pursued other than putting him in bed, and making him comfortable. Early this morning he died.

Autopsy—after 24 hours. Very great anasarca of the whole body and limbs. Left cavity of the pleura filled with serum. The pericardium contained about ℥ij of serum.

Lungs.—Very much congested, and the large vessels distended with blood. Pulmonary apoplexy existed in several places in both lungs. The largest spot was in the lower portion of the upper lobe of left lung: it was about two cubic inches in extent, and of the colour of dark venous blood. On cutting through it, the texture of the lung appeared unaltered, and the surface presented a granular appearance. When pressed, dark coagulated blood exuded. The edges

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made a longitudinal incision from the base to the apex, on the posterior surface of the ventricle, and along the line which marks the septum, between the two ventricles; then a second incision, commencing at the pulmonary artery, and following the same direction as the former, thus dividing the ventricle into two portions. I then measured the cavity in the same manner as in the case of the left ventricle, taking care to add together the measurement of the two separate portions. The thickness of this ventricle was also measured in the same manner."

"The orifices of the aorta and pulmonary artery, were measured by opening these vessels, and drawing a line across the free edges of the sigmoid valves. The auriculo-ventricular orifices were measured by a line drawn along the adherent edges of the mitral and tricuspid valves."

The following are M. Bizot's cyphers, representing the mean ratio of the adult, (30 years) male heart:—Length, 43 lines; breadth, 47 lines; thickness, 17 lines. Length of left ventricle, 29 lines; breadth, 53 lines. Length of right ventricle, 37 lines: breadth, 83 lines. Thickness of the parietes, measured at the three different points above mentioned:—Left ventricle, 4, 5, 3 lines; right ventricle, 1, 1, 1 line. Left auriculo-ventricular orifice, 48 lines; right do. 54 lines. Aortic orifice, 30 lines. Pulmonic 31 lines.—EDITOR.

were well defined, and the surrounding lung crepitous. The others were of the same character, and varied from the size of the first, to that of an almond.

The heart was enlarged by hypertrophy and dilatation, about equally on both sides. The auricles were enormously dilated and distended with blood.

The mitral valves were thickened, partially ossified, and covered with vegetations. Their edges were adherent together, so as to contract the orifice to about three-fourths of an inch in diameter. The orifice was incapable of being closed at all. The aortic valves were slightly thickened; the others were healthy.

MEASUREMENTS.

Length of the heart, ...	5½	inches.
Breadth, "	5	"
" right ventricle, open, ...	5½	"
Depth, " "	3½	"
Thickness of walls, ...	from ¼ to ⅛	"
Breadth of the left ventricle open, ...	6	"
Depth	4	"
Thickness of the walls at the superior third, ...	⅝	"
" " middle, ...	½	"
" " inferior, ...	¼	"

J. M. SMITH, M. D., *Attending Physician.*

Case III.—Hypertrophy and Dilatation of the Heart, with Valvular Disease.—Pulmonary Apoplexy.—JACK WILLIAMS, 25 years of age, native of England, seaman, was brought to the hospital Nov. 29th, 1839, dead; having died on the way from the ship Francis Depau.

HE was reported to have been sick 16 days. Nothing of his history or symptoms could be ascertained.

Autopsy.—There was very great general anasarca. The left cavity of the chest was filled with serum; in the right, there was none. There was also slight effusion in the cavity of the abdomen.

The lungs were very much congested; the great vessels distended with blood. Pulmonary apoplexy existed in both lungs. One of the spots in the left lung, which was most affected, was in extent about 3 cubic inches. The others were smaller, and all were precisely similar, in every respect, to those described in the case of John Cotheck.

The heart was greatly enlarged by hypertrophy and dilatation of all the cavities. The auricles especially were very much dilated, and distended with blood.

The mitral valves were thickened and contracted, and converted into cartilage and bone. Their edges were adherent; the orifice rough, contracted and incapable of being closed. The other valves were healthy.

Measurements, after having been one month in diluted alcohol:

MEASUREMENTS:

Length of the heart,	5½	inches.
Breadth, "	5	"
Left ventricle open, breadth,	6⅜	"
" " depth,	3¼	"
" " thickness, 1st third,	⅜	"
" " " 2d "	⅜	"
" " " 3d "	¼	"
Orifices; aortic, circumference,	2⅝	"
" mitral, circumference,	2⅝	"
" " diameter,	¾	"
Right ventricle open, breadth,	6¼	"
" " depth,	3	"
" " thickness, 1st third,	$\frac{4}{16}$	"
" " " 2d "	$\frac{3}{16}$	"
" " " 3d "	$\frac{3}{16}$	"
Circumference of Tricuspid orifice,	5¾	"
" Pulmonary orifice,	4	"

J. M. SMITH, M. D., *Attending Physician.*

Case IV.—Hypertrophy and Dilatation of the Heart, with Disease of the Aorta.—GEO. LANGDON, 27 years of age, native of New-York, seaman, entered the hospital July 6, 1839.

HE had a severe attack of rheumatism seven years ago, and has had frequent slight attacks since. About six months ago he began to be troubled with dyspnœa, which has been constantly increasing ever since. About the same time a dry cough commenced, which still continues.

About one month ago, he was attacked with severe pain and distress in the precordial region, attended by palpitation, fever, and pains through his whole body and limbs. At that time he was on board a ship of war, and was actively treated. About the commencement of this attack his feet began to swell, and the swelling has continued to increase.

His dyspnœa is now very intense; his face is purple; slight exercise induces palpitation. The impulse of the heart is strong and diffused; the pulse is variable in regard to force and size, but regular in rythm: 100 per minute.

Physical signs.—There is no dilatation of the precordial region. The apex of the heart strikes 3½ inches below, and 2 inches *outside* the nipple.

Flatness and percussion 4 inches from above downward over the heart.

The first sound is accompanied by a rough bellows murmur, which is heard most intense over the valves and along the course of the aorta to the top of the sternum. At the apex it can scarcely be heard. The second sound is clear and distinct.

Treatment.—Rest, moderate diet, and Prot. Chlor. Hydr. gr. 1. Pulv. Scill. Marit. gr. 1. Pulv. Digital. Purp. gr. j. ft. in pil. cap. ter in die.

12th. The swelling of the feet and legs has diminished very much. In other respects there is no material change. Treatment continued.

22d. The dyspnœa is relieved somewhat. His cough is increased and he expectorates freely.

Continue the squills and digitalis as before, and omit the calomel.

Aug. 26. He gradually failed in strength; the effusions increased very much up to this date, when he died.

For the last ten days of his life he was most of the time delirious. No other important symptoms occurred than those stated above.

The treatment was varied from time to time, according to his condition; for the last two weeks he was supported by stimulants.

Autopsy.—The whole body and limbs were anasarcous. There was effusion into the thoracic and abdominal cavities.

The heart was enlarged chiefly by hypertrophy and dilatation of the left ventricle.

MEASUREMENTS.

Length of the heart,	5⅝	inches.
Breadth "	6¼	"
Right ventricle open, breadth,	4⅝	"
" " depth,	3⅜	"
" " thickness of walls,	¼ to $\frac{1}{12}$	"
Left ventricle open, breadth,	7¾	"
" " depth,	4¾	"
" " thickness of the walls, 1st third,	⅝	"
" " " " 2d third,	⅞	"
" " " " inferior third,	⅜	"

All the valves were sound and healthy.

Aorta.—The internal surface of the aorta presented an uneven, wrinkled appearance from the commencement as far as the arch. The internal membrane was irregularly thickened, and in many places, there were atheromatous deposits beneath it, causing elevations on its surface.

There was nothing worthy of notice in the other organs.

J. B. Beck, M. D., *Attending Physician.*

Case V.—Hypertrophy and Dilatation of the Heart, with Disease of Aortic Valves.—John Brine, aged 42 years, born in New-York, seaman, entered the hospital Dec. 15th, 1838.

At the time of admission, he was suffering with an attack of pneumonia, attended by very alarming symptoms. Of this part of his case I have no notes. He, however, soon recovered from the pneumonia, and in April, when he came under my notice, I obtained the following.

History.—About six years ago he had a severe attack of acute rheumatism, which confined him to his bed for six months. Ever since that period he has been subject occasionally to œdema of the feet. For the last year he has been troubled constantly with dyspnœa, but has not been prevented on account of it from attending to the duties of a seaman, till a few weeks before he entered the hospital. For a month previous to his admission the dyspnœa was more intense, and frequently came on in severe paroxysms.

He says he has been subject to palpitation only since his residence in the hospital.

He has now, in addition to the above symptoms, a severe, racking cough, with trifling expectoration.

Physical signs.—The impulse of the heart is hardly perceptible; the apex cannot be felt to strike when his circulation is quiet, but after he has been exercising, it may be felt indistinctly from one and a half to two inches outside the nipple.

The respiratory murmur cannot be heard over the heart. The *first sound* is accompanied by a *rasping sound*, the maximum of which for the heart, is over the valves. It is heard loud and distinct along the course of the aorta; and on the right side, near the junction of the third rib with the sternum, it is more intense and rough than at any other place.

The second sound is accompanied by a sound like that of a file. The greatest intensity of this is over the valves.

He continued along with occasional slight aggravations and remissions of his symptoms, but without any occurrence worthy of note till the early part of May. The treatment was palliative.

May 12th. He has been more uncomfortable for the last few days. The swelling of the extremities has increased and is now greater than ever before.

He complains of pain in the epigastrium and in the right hypochondrium. A prominent tumour has been noticed within a few days occupying the right hypochondriac and epigastric regions, and reaching down as far as the umbilicus. It is probably an enlargement of the liver. He has *ascites* in a moderate degree.

17th. For the last two days he has had frequent turns of vomiting. The pain in the epigastrium still continues. The swelling of the feet and abdomen is increased. Since yesterday his skin and eyes have become very yellow. Two days ago his dyspnœa began to increase; now it is very intense. He has no pain about the chest. Pulse very frequent and small; skin cool. The action of the heart is very violent. His condition will not admit of his being examined by auscultation.

He continued to suffer with the most intense dyspnœa, till 11 o'clock P. M., when he died.

The treatment in this case was such as from time to time was called for to palliate his symptoms—consisting of expectorants, laxatives, diuretics, and occasionally anodynes.

Autopsy.—The whole surface of the body was of a yellow tint. His abdomen and inferior extremities were swollen. There was a moderate quantity of fluid effused into both sides of the chest, and also into the abdomen. Both lungs were adherent to the diaphragm; and throughout their whole extent in a state of inflammation, chiefly in the first stage. The *pericardium* was filled, but not distended with a clear serum. There were no organic changes in that membrane.

The heart was greatly hypertrophied and dilated; the latter condition rather preponderating. Both sides were about equally enlarged.

MEASUREMENTS.

Length of the heart,	4 inches.	1 line.
Breadth, " "	4 "	
Left ventricle open, breadth,	5 "	6 lines.
" " " depth,	3 "	3 "
" " thickness of walls at superior third,		7 "
" " " " middle "		6 "
" " " " inferior "		6 "
Right ventricle open, breadth,	6 inches.	6 "
" " " depth,	3 "	3 "
" " thickness of walls at superior third,		4 "
" " " " middle "		1 line.
" " " " inferior "		1 "
" " circumference of aortic orifice,	3 inches	1 "
" " " pulmonary,	3 "	3 lines.

The aortic valves were thickened, and in one of the folds there was a deficiency, (apparently produced by ulceration) which, when the valves were closed, left an opening about the size of a goose-quill. The edge of the opening was smooth and rounded.

The other valves were healthy. The internal surface of the aorta presented an uneven, puckered appearance, in some places like cicatrices of ulcers. This roughness was most marked in that part nearest the heart and about the origin of the "arteria innominata."

The lining membrane was of a diffused red colour for the space of ten inches from the origin, which was as far as the examination was extended. The roughness was equally extensive. On dissection, this was found to be owing to an irregularity of the lining membrane. In some places the middle coat was thin, friable, showing a disposition to the formation of true aneurism.

The *liver* was very much hypertrophied and congested with blood. It was this which formed the tumour in the abdomen. The spleen was also hypertrophied. The other viscera of the abdomen were normal.

JAS. MACDONALD, M. D., *Attending Physician.*

Case VI.— Organic Disease of the Heart.—JOHN SHIPWAY, a native of England, 49 years of age, seaman, entered the hospital July 9th, 1839.

He was suffering under extreme dyspnœa; cough, palpitation of the heart and œdema of the feet and legs. Pulse 100, bounding. No fever. Action of the heart very violent.

Physical signs.—The apex of the heart strikes about two and a half inches below and on a line with the nipple. Flatness over the heart exists for the space of three and a half inches from above downwards. The other parts of the chest resound well. Both sounds of the heart are accompanied by a rough sound. The first is a sawing sound; the second is softer; the maximum of these sounds is over the juncture of the fourth rib with the sternum on the left side. They are also distinct along the sternum and on the right side. They are also quite distinct at the lower extremity of the sternum.

History.—He has for many years been subject to frequent colds. Has been troubled with dyspnœa about a year. During this period, he has been subject to palpitation on going aloft.

In the month of February last, while attached to the navy, he went ashore and indulged in drinking and other excesses for several days. Soon after he was taken with pain in the left side of the chest, very severe cough, hemoptysis and fever. He was actively treated on board; his mouth was kept sore for four or five weeks.

About the last of March, palpitation became more frequent and severe; at the same time his feet began to swell, and the dyspnœa became permanent. At times the paroxysms of dyspnœa have been very severe. The œdema of the feet has not been constant. At times his abdomen has been swollen.

Treatment.—He was bled from the arm and put on the use of tart. antim. ⅛ gr. every two hours, and confined to the bed.

20th. He was cupped over the precordial region.

21st. He was again cupped on the back.

22d. He has been very much relieved of the dyspnœa. He coughs and expectorates freely. The swelling of the feet has nearly disappeared. Pulse 88, full. The impulse of the heart is scarcely perceptible to the hand.

Mist. expect. and light diet.

26th. Slight exercise induces palpitation and dyspnœa. His feet become œdematous when he walks about.

Aug. 5. His cough has improved. For the last few days the palpitation has increased. The physical signs have not changed.

17th. He suffers very much from the palpitation and dyspnœa. His strength fails. His cough is about the same. There is no increase of the effusion.

19th. He was discharged by request.

J. B. Beck, M. D., *Attending Physician.*

Case VII.—Hypertrophy of the Heart, with Valvular Disease.—Louis Power, 24 years of age, native of Germany, farmer, entered the hospital July 16th, 1839.

History.—He has been troubled with dyspnœa and palpitation for five or six years; but these symptoms have been severe only about one year. He has been subject for three years to swelling of the feet—the swelling is not constant.

His countenance is pale and œdematous. He is dull and lethargic. His feet and legs are swollen moderately. His respiration is short and oppressed, and he has a dry cough. He is subject to palpitation after exercise or going up stairs.

Physical examination.—There is evident dilatation of the precordial region. The impulse of the heart is strong, heaving, and circumscribed. The apex strikes two inches below and on a line with the nipple. There is no thrill perceptible to the hand placed over the heart. There is flatness on percussion for three and a half inches from above downward over the heart. The first sound of the heart is accompanied by a "bruit de soufflet," which occupies the whole space between the first and second sounds. This is heard along the whole course of the ascending aorta; and at the top of the sternum perhaps even more distinctly than in any other situation. It is also heard at the distance of two or three inches on each side of the sternum. For the heart, the maximum of intensity of sound, is over the valves; over the ventricles it becomes less distinct.

The second sound is accompanied by a sharper sound, rather like that of the *file.* This sound is heard distinctly *only over the valves.*

His pulse is full, strong, and regular. The pulsation of the subclavian and carotid arteries is evident to the eye. This examination was made when the patient's circulation was quiet. His appetite is good, his strength moderate.

Aug. 14. Under the use of diuretic and laxative medicines, the dropsical effusions have nearly disappeared, and his dyspnœa has been relieved.

The physical signs have not changed. To-day he was by request discharged.

March, 1840. I have repeatedly seen this patient since his discharge; the last time only a few days ago. His general health is yet quite good. He retains the cough and is somewhat troubled with anasarca.

The physical signs are about the same as they were at the time of his admission to the hospital.

John B. Beck, M. D., *Attending Physician.*

Case VIII.—Organic Disease of the Heart.—Bernard Roth, 24 years of age, born in Germany, flute-turner, entered the hospital March 8th, 1839.

Symptoms.—He has œdema of the face, and also of the lower extremities and genital organs. Slight effusions into the cavity of the abdomen; a troublesome cough and constant dyspnœa, which is aggravated by exercise and by ascending a height. He has palpitation after taking exercise, but not when he keeps himself quiet. Pulse full, but compressible, not accelerated; neither is it accompanied by a thrill.

Physical signs.—There is a marked dilatation of the precordial region. The impulse of the heart is strong and heaving, and is felt only over a circumscribed space. The apex strikes one inch outside, and one and a half inch below the nipple. On percussion over the heart, there is a flat sound over a space three inches in length, by five in breadth. There is also marked flatness on percussion at about the union of the second and third ribs with the sternum, on the right side. At this point there is a distinct thrill perceptible to the hand.

The first sound of the heart is accompanied by a "bruit de soufflet" which is most intense over the valves. It is also very loud and distinct along the course of the aorta to the arch. Over the ventricles it becomes indistinct.

Between the second and third ribs on the right side near the edge of the sternum there is a strong bellows sound which appears to proceed from that part.

The second sound is accompanied by a sort of cooing sound (an imperfect musical sound.) The greatest intensity of which is over the aortic valves.

History.—He first began to be troubled with dyspnœa at the age of 18 years. He has been subject to frequent cough, and has several times had slight hemoptysis. He has been subject to palpitation ever since the above period. Has been very subject to headache. He has never had rheumatism.

For the last year he has frequently had œdema of the face; his extremities have never been swelled till about one month since.

Diagnosis.—Hypertrophy and dilatation; roughness of aortic orifice or of the aorta, and patescence of the aortic valves. Also aneurism by dilatation of the aorta. He was bled from the arm to the amount of ℥xvj. and put on the use of diuretics with occasional cathartics.

Under this treatment the serous effusions disappeared, and he was, at his request, discharged on the 29th of April.

The physical signs remained the same as on admission. The cough and dyspnœa were relieved.

J. B. Beck, M. D. *Attendant Physician.*

Case IX.—*Pneumonia.*—Caleb Gates, 30 years of age, seaman, entered the Hospital Jan. 21st, 1840.

Symptoms.—Dyspnœa; suppressed cough with expectoration of rusty, tenacious mucus; pain in the right side of the chest, hot skin; pulse 112, feeble. His tongue is white in the centre, with red edges. His bowels are free.

History.—On the 17th inst. he fell into the river. During the following evening he had frequent chills and flushes of fever. On the next day he was attacked with pain in the right side of the chest, dyspnœa, and severe cough, with expectoration of bloody mucus. (He had previously a chronic cough of long standing.) He is addicted to intemperance. He has had no medical treatment.

22d. He slept but little last night; says his head was confused. He has to-day a tremulous tongue, and trembles all over slightly.

Physical signs.—There is dullness on both sides behind, most marked at the superior part. On the left side the respiration is harsh and bronchial; on the right it is indistinct. A crepitous ronchus is heard on both sides, at the superior part; and below, a mucous ronchus.

Pulv. ipecac. gr. j. c. mucil. G. A. q. 2. h. H. decoct; Sem. lini.

23d. His dyspnœa is rather increased. The heat of skin is about the same. Pulse 120; cough severe; expectoration streaked with blood. Bowels free. *Continue treatment.*

24th. Very much improved. His dyspnœa is less, and he expectorates more freely and easily. Pulse 92. Heat diminished. The medicine produces constant nausea. Treatment continued.

25th. He had delirium tremens last night, but appears to be free from it this morning. He vomited very frequently last night and this morning, and threw up a quantity of blood. He has no heat of skin. Pulse 96. He coughs much less and expectorates only white mucus.

Stop the ipecac. and mucil. and give

Syr. scil; t. sang; c. elix. paragoric, āā ℥j.
Mucil. g. Arab. ℥v. m. cap. c. mag. q. 3h.

27th. He slept well last night and is now free from fever; is able to sit up. He complains of some pain along the sternum. Cough still continues. Pulse 100. Treatment continued.

29th. His cough is still severe, and he suffers pain along the lower margin of the chest.

Continue cough mixture, and apply a blister to the seat of pain.

Feb. 13th. He gains strength of flesh rapidly. His cough is not entirely well.

24th. Discharged cured.

J. Macdonald, M. D. *Attending Physician.*

Case X.—Pneumonia.—James Harriman, 20 years of age, born in Maine, seaman. Entered the Hospital May 25th, 1839, with the following symptoms:

Respiration, very much oppressed; pain in the right side of the chest; severe distressing cough, with bloody expectoration; skin hot; face flushed, pulse frequent.

History.—On Thursday last, (23d) after having lain down, and slept exposed to a current of air, while heated by violent exercise, he was attacked with pain in the right side of the chest near the nipple, dyspnœa and fever. On the following day he began to cough and expectorate bloody mucus.

Treatment.—After taking about ℥xvj. of blood from the arm he was put on the use of Tart. antim. ¼ gr. every two hours.

26th. He was cupped on the right side of the thorax. *Tart. antim. continued.*

27th. He still continues to expectorate bloody mucus. The cough and pain are not relieved. Pulse 108, full; skin hot.

Physical signs.—Percussion yields a flat sound over the posterior part of the right side. The respiration is bronchial; there is no ronchus. Anteriorly the resonance and respiratory sound are both good. The left side is normal.

V. s. ℥xij. and give tart. ant. ½ gr. every hour. Anodyne at bed time.

28th. He passed the night comfortably, but this morning his pain is increased. The dyspnœa is very considerable; coughing is very painful.

There is no change of the physical signs.

Twelve leeches to the right side, and continue tart. ant.

29th. He took an anodyne last night which enabled him to rest. This morning the pain has been very severe. Some relief by a camphorated poultice applied to the chest. His skin is very hot; pulse frequent.

Continue tart. antim.

30th. A blister was applied to his chest last night. This morning he feels better.

Continue tart. antim.

31st. He breathes more freely and suffers less pain. The fever has very much diminished. The flatness on the right side is more marked than at the last examination. Respiration is still dry and bronchial. At the lower part feeble and indistinct.

Continue tart. antim.

June 4th. He has improved very much since last report. The fever has entirely subsided. He coughs easier and expectorates abundantly. Right side still very flat. Respiratory sound feeble and distant from the ear. A slight ronchus was heard for the first time to-day.

Mist. expect., composed of syr. scill., syr. tolut. and t. sang. c., equal parts with mucilage.

5th. I examined his chest again to-day. The respiratory sound is still indistinct and distant. Flatness about the same. The ronchus is more abundant.

Continue mist. expect.

July 1st. From the date of the last note he continued to improve rapidly. His respiration recovered its freedom; the cough subsided, and his strength returned. The resonance on percussion and the respiratory murmur have also returned. He was to-day discharged cured.

J. M. Smith, M. D. *Attending Physician.*

Case XI.—Edward Blakeman, aged about 40 years, native of England, by occupation a waiter, entered the New-York Hospital, Feb. 4th, 1839, with diarrhœa.

He has four or five scanty watery stools in the day, attended by severe griping and tenesmus. Abdomen not tender to pressure. He is pale, emaciated and feeble; skin dry and husky; temperature not increased; pulse feeble and accelerated.

He has been troubled with a constant diarrhœa, attended by tormina and tenesmus, for three months, but has not been prevented attending to his usual duties.

Treatment.—Opium per stoma and per anum, with a mild diet of arrow-root and milk, and the occasional application of leeches to the anus.

While under this treatment, the discharges became less frequent, and the pain was relieved.

Mar. 15. Since the diarrhœa was checked his bowels have been costive, and he has suffered greatly from flatulence. During the last two weeks serous effusion has taken place into the cavity of the abdomen. Diuretics and purgatives have been used without effect, and the accumulation of fluid has now become so great as to require immediate relief. The operation of paracentesis abdominis was performed to-day, and about three gallons of clear serum evacuated.

Diuretic treatment continued.

16th. He has experienced great relief from the operation; he is able to walk about the ward. On examining his abdomen since the operation, a solid tumour is discovered occupying the lower portion of the cavity.

Diuretics, with wine and porter.

April 1st. He has been gradually sinking since last report. For the last ten days urination has been difficult and painful. He has, also, had great difficulty in passing his fœces.

4th. Died.

Autopsy.—36 hours after death.

The body very much emaciated. On cutting into the cavity of the abdomen its anterior walls were found adherent to a diseased mass. The peritoneum was the seat of a morbid deposition* of a firm, almost cartilaginous texture, yet, in many places, very friable—semi-transparent, and of a dirty white colour. This deposition was most abundant in the omentum, diaphragm, mesentery, and on the viscera of the pelvis. In this latter situation, a large quantity was found enveloping the rectum and extending to the posterior surface of the bladder, and uniting it to the mass in such a manner as to prevent its contracting. This mass nearly filled the pelvis. The calibre of the rectum was very much constricted and its natural texture entirely destroyed. The same state of things was also found in other portions of the large intestines.

In those situations where the deposition was less abundant, and appeared more recent, it was in the form of small globular masses, of the size of a pea and upwards; of a yellowish white colour, and dense texture. They were situated beneath the peritoneum, in some places single, and in others agglomerated.

Recent lymph was found in some places gluing the intestines together.

The liver, spleen, and viscera of thorax were all in a normal condition.

Jno. B. Beck, M. D., *Attending Physician.*

Four cases of Scorbutus.—These men were admitted to the hospital on the 22d Dec., 1839. They were all similarly affected, but in different degrees of severity. They have been five months at sea and have lived chiefly on salt beef of a poor quality. Their only vegetable food was bread and flour pudding, (the latter of a bad quality,) and during the first part of the passage they had beans. The weather during the latter part of the passage has been very severe.

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* The morbid deposition in this case, at the autopsy of which we were present, was the *jelly-like deposit, (matière colloïde,)* of Andral and other French writers.—Editor.

Case 1st.—Chas. Hopkins, aged 27 years, born in New-York, entered the hospital, Dec. 22, with scurvy and dysentery.

He is very much debilitated; his countenance is sallow; he has two ecchymotic spots about the right knee, with hardening of the cellular tissue; his gums are swollen, livid, and ulcerated; his tongue is pale, but not coated. His stools are watery and slimy, and are attended with tormina and very severe tenesmus. His appetite is very poor.

He was taken sick about two months since. His first symptom was swelling of the gums, which was soon followed by ecchymotic swellings on the legs, stiffness of the knees, loss of strength, and pain across the breast. When the ship reached soundings he began to improve. On the 16th inst., he was taken with pain in the bowels and diarrhœa.

Pulv. Dover. gr. 1 *ter in die. Diet of fresh meat, soup, and vegetables.*

36. He has improved very much. His stools have become natural and he is free from pain. His gums are less swollen and are improved in colour. The ecchymotic spots, and the hardening, are fast disappearing. His strength is very much improved.

30. Discharged cured.

Case 2d.—Jacob Johnson, 46 years of age, born in Sweden, of light complexion, sandy hair, entered the hospital 22d Dec.

He is so debilitated that he is unable to walk, or even sit up; his countenance is very pale and sallow; tongue very pale; gums swollen, livid, and ulcerated; appetite very poor; bowels regular; stools natural. The left leg is very much swollen and of a yellowish livid hue. The cellular tissue is very much hardened over the whole leg and foot, but more especially in the ham, and on the posterior part of the thigh. The leg is kept in a semiflexed position, and cannot be extended.

The other leg, and the left arm, are also affected, but to a less extent. There appears to be, in this case, and also in the others, enlargement of the bones of the affected limbs; but this is doubtful. The legs are very painful; pulse very feeble.

History.—He was taken sick three months ago. The first symptom in his case was hardening of the tissues in the left ham, and stiffness of the joint; it then extended to the other parts of the leg. The swelling and hardness tion, which was at first dark red, and then became pur-

s immediately followed by lassitude and debility,
nued to work for three weeks; and has since
became affected only two weeks ago.

e gains strength; his gums, also, are
ger. Treatment continued.
ost of the day, and is in every respect better.
the legs has nearly disappeared, but the hardness
out, and makes use of friction with stimulating liniment

eneral health appears to be established. The swelling and
the limbs is gradually improving.
3d. Discharged cured.

Case 3d.—AULONIC SOCOLOWITCH, 50 years of age, born in Austria, black hair, swarthy complexion.

HE is much less debilitated than the last; but his gums are in a worse condition than those of the two preceding patients. Many of his teeth are loose. He has a large ecchymotic spot, which is swollen and hard, on the lower part of the right thigh. Numerous smaller spots, of about the size of peas, are scattered over both legs and thighs. Both knees and elbows are rigid; limbs are weak and painful; has pain in his back and breast; appetite poor; bowels rather free; pulse feeble.

History.—About two months ago his gums first became affected. For some time previous his appetite had failed, and he became weak and sickly. The spot on his thigh appeared three weeks ago. He has a prominence on the left tibia, a little larger than a dollar, in which situation he received a blow about three months ago.

Treatment.—The same as in the preceding case.

28th. The swelling and lividness of the gums are very much diminished; the ulcers have assumed a healthy character, and are healing. The purple spots are fading, and the hardness of the cellular tissue is disappearing gradually. His strength improves daily.

Jan. 1st, 1840. Discharged cured.

Case 4th.—GEO. ALSBURGH, 37 years of age, native of Prussia; dark complexion; black hair; person very stout.

HIS general health is similar to that of the others. His gums are very much ulcerated and livid. His right arm, from the wrist nearly to the axilla, is swollen, hard, and livid. The posterior or extensor surface of the arm is most affected. The right leg is in a similar condition from the foot to some distance above the knee. The whole circumference of the limb is involved, but the hardness and discolouration are greatest in the ham and on the anterior part of the leg.

The other side of the body is not affected.

History.—About four weeks ago his gums began to swell; this symptom was attended by impaired appetite, lassitude, and debility; afterwards he was afflicted with pains in his limbs and stiffness of the knees. Twelve days ago he first noticed the discolouration appearing just below his knee; at that time there was no swelling of the limb.

Treatment.—Diet exclusively, as in the other cases.

26th. His appetite and strength improve daily. The discolouration is fading, and his mouth is improved.

28th. The hardness and swelling of the limbs are gradually disappearing; his mouth, also, improves daily. His joints are much more supple.

Jan. 4th, 1840. His general health is entirely established; his mouth is well; his limbs are not yet entirely restored to their natural condition, but are improving daily. He was to-day discharged cured.

There was a fifth case, an Italian by birth, who came to the hospital at the same time, and in the same condition with the last two. He remained, however, but two or three days, when becoming discontented, he was discharged. He was rapidly improving at the time he left.

JOS. M. SMITH, M. D., *Attending Physician.*

An Essay on Phlegomnous Tumours, of the Iliac Fossa.

By A. GRISOLLE, M. D. formerly *Chef de Clinique,* at Hotel Dieu, Paris, &c. Translated and abridged from the French.

By C. L. MITCHELL, M. D.

THE internal iliac fossæ, are often the seat of abscesses; the symptoms and terminations of which are frequently modified, and obscured by their relations with important viscera. Dupuytren, Husson, Danee, and Ménière, have, within a few years, drawn the attention of practitioners to this subject; and from the works of surgeons and accoucheurs of the last century, it is evident, that they also were acquainted with it; but considered it, most commonly, as consequent upon labour.

An examination of their works, and of the isolated observations found in various periodicals, furnishes, with the twelve which I have myself collected, a total of 73 cases; with which I shall endeavour to resolve all questions relating to this disease. Unfortunately, the greater part of the cases recorded, are wanting in important details; and in the examination of each question individually, my results are necessarily based upon different aggregates; for such histories only could be referred to as were complete in the points under investigation.

Abscesses, following labour, and those occurring out of the puerperal state, having similar symptoms, and being susceptible of the same terminations, will be comprehended in one description. The only difference ever observed between them is, that, in some very rare instances, abscesses following labour, seem to commence in one of the broad ligaments of the uterus; the cellular tissue of which, is a continuation of that occupying the iliac fossæ; a difference too unimportant to require, for that class, a separate notice.

CAUSES. — The causes which operate in the production of abscesses, in the iliac fossæ, are often very obscure. They are more common to the right than to the left of the iliac fossa, in the proportion of 53 to 20. This has been attributed to the effect of gravitation, creating a disposition to the accumulation of fœces in the right side; to the comparative frequency of organic alterations in the cœcum; to the anatomical condition of the parts, the posterior portion of the large intestine, on the right side, being destitute of peritoneum, and consequently, less disposed to resist the influence of irritation from within. I have my doubts, however, as to the real value of these circumstances, especially of the latter.

Some authors have stated, that these abscesses, when they occur in puerperal women, are almost always on the left side; in 17 cases that I have analyzed, 11 were in this situation; the reason for this difference is not clear.

The male sex, is one of the most powerful predisposing causes of this disease. Thus, in 56 cases, independent of the puerperal state, 46 occurred among men.

The puerperal state is the principal predisposing cause of this disease among women; thus, in 27 cases, 17 were of this character. It most commonly occurs after the birth of the first child; thus in nine cases which I have collected, this happened seven times. The probable cause of this is the length of the labour. In 14 cases that I have attended, in 11 the disease appeared from the 3d to the 10th day after delivery; two before the 15th day, and only one after a month. Levret, supposes that it occurs more frequently in puerperal women, in whom the secretion of milk does not take place.

Age excites a decided influence over the production of this disease; thus, in 51 cases, 7 were from 11 to 20 years; 27 from 20 to 30 years; 12 from 30 to 40 years; only five from 40 to 60 years. It is also observed, that individuals of good constitution, are most frequently attacked, in the proportion of 23 to 11.

Perforations of the cœcum, or of its appendix, either spontaneous or the consequence of gangrene, caused by the presence of foreign bodies, or of indurated fœces, is an occasional cause of this disease. When this perforation occupies the posterior surface of the intestine, where it is destitute of peritoneum, the fœcal matter is discharged into the cellular tissue of the iliac fossa and of the loins, which inflames, suppurates, and becomes rapidly gangrenous. If, on the other hand, the anterior surface is perforated, or the appendix, the effusion takes place into the peritoneum, and death rapidly ensues. Fortunatley, however, in some, of the latter class of cases, adhesion takes place around the perforation. In these cases, the inflammation may, or may not extend to the cellular tissue, in the iliac fossæ. This actually happened in the following case:

CASE I. — A milliner, 22 years of age, of moderately strong constitution, and always enjoying good health; now pregnant for the first time, was troubled during the latter months of gestation, with obstinate constipation, lasting at times ten or fifteen days, but producing no other functional derangement than a slight inappetancy. She was delivered at Hotel Dieu, of a healthy child, on the 14th of August, after a natural labour of 16 hours, which was followed by no untoward accident. Her health remained good until the evening of the 15th; when, without any known cause, she had irregular chills, followed by heat She is alarmed by sad forebodings, and her features express suffering; the pulse beats 136 times in a minute, strong and full; the belly is indolent, except in the right iliac fossa, which is extremely sensible, the pain being so severe as to prevent the exploration of that region; still I could at times distinguish a diffuse resistance, deeply situated. The uterus is at the middle of the hypogastrium; the lochial discharge natural; the breasts not tumefied; no stool during the last 24 hours; the tongue is moist, a bitter taste in the mouth, and the thirst great; nausea, and during the night, vomiting of a bitter yellow matter. The patient obstinately refuses to be bled; 25 leeches are applied to the part affected. On the morning of the 16th, same state as in the evening previous. (25 leeches, bath, catap.)

17th. The belly slightly tympanitic; sensibility in the region of the cœcum much diminished; a circumscribed tumour, three inches square, is traced, of a regular surface, slightly elastic, not offering the hardness of phlegmon, but giving the sensation of a kind of softness, without evident fluctuation in any point. One liquid stool, which we were informed was of a greenish colour; several vomitings as yesterday; pulse 124, slightly resistant. (Frictions with ung. hyd. ℥j. calomel 16 grains, in 8 doses; bath.)

18th. Precisely the same condition as yesterday; no evacuation; the right thigh is the seat of no pain, presenting neither retraction nor œdema; the breasts flaccid; the lochial discharge natural.

19th. Irregular chills; the tumour is of the size of the fist, and raises the parietes of the abdomen; although tense, it presents an obscure fluctuation; two yellowish fœtid stools; inclination to vomit, some hiccup. Pulse 120, compressible; expression of distress. Same prescription.

20th. The tumour can no longer be circumscribed; nothing is felt but a diffused doughyness, throughout the flank; the patient complains of the right lumbar region, which is the seat of no tumefaction; two liquid stools of a green colour, without traces of pus; lochia much diminished.

21st. Expression of the countenance much altered; pulse 124, compressible and irregular; decubitus on the right side, the thigh very slightly flexed; same doughy feeling as yesterday; pressure in the region of the cœcum produces no pain, but twice caused gurgling. The patient submits unwillingly to any examination, and refuses to answer questions. During the day, chills, and vomiting of a green matter.

22d. Features deeply altered; acute pain in the whole of the right side of the belly, especially in the right iliac fossa, and the corresponding lumbar region: it is in these two points that pressure is the most painful. She gradually sunk, and died in the evening.

Autopsy.—The anterior abdominal parietes, on a level with the right iliac fossa, adhere in an extent of three inches to the subjacent parts. On attempting to detach it, a cavity is exposed capable of containing a small orange; the other walls are composed of the cœcum, the epiploon, and some convolutions of the small intestines. All these organs are covered with blackish false membranes. The cavity contains a mixture of pus and a brownish matter, having a gangrenous odour, and several pieces of hardened feces. Being carefully emptied and washed, it becomes evident, that the abscess is situated in the cavity of the peritoneum. Beneath its internal walls, the vermiform process is discovered, open, black, friable, and partly destroyed by gangrene. Towards the external walls, a little posteriorly, there is an opening capable of admitting the extremity of the thumb; irregular in its contour, by which a new cavity is entered, containing the same matters as the former, which have detached the cœcum and ascending colon, and reach almost to the inferior border of the kidney, the tissue of which remains unaltered. The iliac aponeurosis is blackish, cracked, and perforated in several points. The iliac muscles, and quadratus lumborum, are blackened; their fibres, for the most part softened, and reduced to a state as if parboiled, and exhale a fetid odour. The cœcum presents no perforation. The remainder of the digestive tube, and other abdominal organs, together with those contained in the head and chest, are unaltered.

Wounds, blows, and strong pressure, in the iliac region, may operate as the exciting cause of this disease, in some individuals. It is possible, also, that inflammation of the neighbouring organs, the mucous membrane of the intestines, of the womb, and its appendages, may operate in its production. But, in a majority of cases, it is impossible to ascertain what is the real exciting cause.

The following case, in which the symptoms of congestion of the cellular tissue *preceded*, for a long time, those in the intestinal canal, may be properly introduced here.

Case II.—A boy aged 15 years, spinner, of a delicate constitution, but having always enjoyed good health, was seized early in July, 1834, without any known cause, with acute abdominal pains, having their maximum of intensity in the right iliac fossa, accompanied with mild fever, and no derangement of the digestive organs other than a slight constipation. On examination, a painful tumour was discovered in the right iliac fossa, the existence of which had been recognised by the patient, as he affirms, more than a month previous; although there was then no pain, or other morbid phenomenon. The acute symptoms disappeared after the application of thirty leeches to the affected part. After a repose of 15 days, the patient resumed his occupation; his health continued good until the end of September, the tumour still remaining, according to him, of the size of a pigeon's egg. In the latter part of the month, he was again seized with pains, radiating from the right iliac fossa to the other regions of the abdomen, with bilious vomiting, and copious yellow dejections, sometimes accompanied with tenesmus; the tumour at the same time increased in volume; the movements of the right thigh were a little painful, and complete extension of the limb became impossible. Scarcely any fever was observed. At the expiration of 12 days, constipation took the place of the colic and diarrhœa; and the patient entered the hospital on the 9th of October, 15 days from the commencement of the attack. The tumour was then found hard, immovable, moderately sensible to pressure, of an even surface, measuring three inches and a half vertically, and two transversely, and situated behind and above the ligament of Fallopius. The abdominal parietes moved easily over it; the movements of the corresponding inferior extremity were free since the day previous; the constipation had ceased, the patient had one consistent stool, without colic, and the apyrexia was complete. An application was made of 15 leeches, and renewed on the 10th; under the influence of which, the pain ceased; and by the 11th, the tumour had diminished half an inch in its transverse diameter. From the 15th to the 27th, frictions were made twice a day, with half a drachm of mercurial ointment, and the patient was discharged a few days after, without having presented any fluctuation, or discharging pus by any passage; but offering a considerable diminution of the tumour, which had then the volume of a small nut, hard, immovable, and indolent, situated three-fourths of an inch above the broad ligament, and an inch inward from the superior spine of the ilium. The digestive functions were regularly performed.

If the patient had not chanced to discover the tumour long before the appearance of the acute symptoms, the intestinal disorders would, undoubtedly, have been considered, and with some appearance of reason, as the determining cause of the iliac inflammation. Yet the latter, progressing slowly, and in an obscure manner, was the cause of the two acute attacks; which will, perhaps, be renewed, as the patient still carries a considerable nucleus of induration. Similar instances are not rare, for I have myself seen two examples, and my colleague and friend Dr. Boyer, has communicated to me another, in which the tumour was found several days before the supervention of the acute symptoms.

SYMPTOMS. — The invasion is ordinarily marked by pain, more or less acute, limited to one of the iliac fossæ, or radiating to a distance; a variable febrile movement; some derangement of the digestive organs, and other symptoms, which may serve to designate the precise seat of the engorgement. These morbid phenomena, differing much both in frequency and intensity, are not all of equal value, and require a more particular notice.

The chilliness which is so common at the commencement of phlegmasize, especially of the viscera, is very rarely observed here, being found in but five of the fifty-six cases which I have analyzed; and of this number three were in parturient women.

Of all the symptoms, pain is the most common, since it marked the commencement of the disease, or was at least, the first apparent phenomenon in 49 cases out of 57. In the remaining eight, the pain was preceded one or several days, by constipation, uneasiness, and numbness of one of the inferior extremities. In four individuals, an indolent tumour was found in the iliac fossa, before that region became the seat of any morbid sensibility; and it is probable that the same had existed in many other cases; so that the pain indicated less perhaps the invasion of the disease than the commencement of its acute state. But whatever may be the epoch at which this symptom is manifested, it does not always present the same characters; being sometimes acute and lancinating, and at others, dull and deep-seated. Compared by some patients to simple colics, it is always augmented by pressure, or coughing; and in some rare instances, by the movements of the trunk, which is inclined forward; as well as by the complete extension of the corresponding lower extremity, which is rendered impossible in about one-tenth of the cases.

The seat of the pain, at the invasion of the disease, is also very variable; being frequently referred to points at a distance from the iliac region. Thus, in 50 patients, in whom the precise seat of the disease is indicated, nearly one-fourth, (twelve) complained of general tenderness of the abdomen; and nine, of that in the hypogastrium. In 24, the pain had its primitive seat in the iliac fossa; to which should be added, five others, who referred it to the inguinal region of the side in which a tumour was subsequently developed. But whatever might have been the primitive seat of the pain, it was soon after felt principally in one of the iliac fossæ, from whence it diverged to other regions of the abdomen, to the genital organs, or to the inferior extremities. These divergences are not always purely sympathetic, but sometimes depend upon the effect of the tumour, in compressing the nerves distributed to the affected part. The pain is then commonly acute, lancinating, continuous, or exacerbating; or there is instead, a numbness and disagreeable pricking. The parts present no change in volume or colour, and pressure sometimes increases, and sometimes calms the suffering.

The first appearance of the disease, is also frequently marked by various derangements of the digestive organs, as anorexia, nausea, and especially, diarrhœa; which has been observed in one-twelfth of the cases; and constipation, which existed in one-tenth; alternations of constipation and diarrhœa have been observed in less than one-twentieth, and in some cases griping and dysenteric tenesmus. But, these symptoms, having but little value in the diagnosis, I shall pass to one of much greater importance, namely, the existence of a tumour in one of the iliac regions.

As patients seldom enter the hospital till the 6th or 12th day from the first appearance of the symptoms, it is generally impossible to fix precisely the moment when the tumour commenced. This epoch should also vary with the more or less rapid progress of the disease. I have before cited the case of an individual in whom a tumour was found within 48 hours after the attack; and the size that it had then acquired, made me presume that it might have been discovered much sooner. Dance, has seen patients in whom the tumour was evident on the third or fourth day.

Before the tumour has acquired much size, no deformity is observed in the iliac fossa; and the presence of a swelling in that region, can only be recognized by the touch. It is then found hard and resistant, presenting an even surface, and communicating no pulsation to the hand; the pain is more or less acute, generally lancinating at the commencement, and sometimes through the whole course of the disease. The abdominal parietes move easily over it, unless adhesions have been contracted between them. If an attempt is made to seize the tumour with the fingers, it will generally be found immovable; yet if it is very prominent anteriorly, it is often susceptible of a lateral motion; but when its surface is flattened or depressed, it is immovable. These differences probably depend upon the seat of the tumour, and the depth at which it is placed. If, as appears to be most common, it is developed in the subperitoneal cellular tissue, it is capable of being displaced, for the surrounding tissue is loose and lamellated, and the peritoneum covering it, does not prevent its pointing anteriorly. If, on the contrary, it is beneath the fascia iliaca, it is bound down by that fascia, which prevents it from becoming prominent, renders it immovable, and gives it the flattened form of which I have spoken. The tumour always yields a dull sound on percussion, unless the sound is modified by a convolution of intestine, placed upon, or by the side of it. In general, it is easily circumscribed. Its volume varies from the size of a nut to that of an orange; its medium size is that of a hen's egg. Sometimes it involves the whole iliac fossa, in which case its limits are defined with difficulty, a diffused resistance alone being found, extending towards the lumbar region.

But various other symptoms are determined by phlegmonous tumours from their relations with important organs. I have already mentioned the acute, lancinating pains which extend to the genital organs, and particularly to the thigh and leg, when the tumour compresses or involves the nerves distributed to those parts. In about one-tenth of the cases, there was a numbness or disagreeable pricking which might in some instances depend upon compression of the nerves, but which, it appears to me, were also owing to an obstruction of the circulation in the vessels distributed to the corresponding inferior extremity.

This effect was distinctly evident in a case of numbness of the left thigh in consequence of a puerperal iliac inflammation; the left crural artery was less full and hard than the right, their pulsations at times were not isochronous, and the temperature of the corresponding limb was lower than that of the other; phenomena which lasted during six hours. If the pressure is chiefly on the iliac vein, œdema will soon appear about the malleoli, sometimes extending throughout the whole extremity, and will remain long after the apparent cure of the primary affection. Serous effusion has been observed in four subjects, and can be referred to no other cause than obstruction to the venous circulation of the limb. Compression of the blood-vessels, little or not at all noted by writers, is quite rare, since it is necessary for its production that the cellular tissue of the psoas muscle be involved in the disease; but even then, the vessels being protected by a strong sheath, and situated in a loose cellular tissue, may escape a compression that would otherwise diminish their calibre. The nerves, on the contrary, being engaged in the fibres of the muscle, should be oftener affected, but owing to the inattention of authors to this point, the frequency of neuralgic pains cannot be determined. I have observed them in one-fourth of the cases which I have collected, and have seen them entirely wanting in a patient who died in consequence of this disease, and in whom several branches of the nerves were found at the autopsy, soft and friable, in the centre of the purulent cavity.

But the cœcum is the organ most frequently suffering from compression, ordinarily causing constipation and tympanitis, particularly if the tumour is in relation with its posterior face, which is then pressed towards the anterior. Constipation may also be produced by inflammation of the cellular tissue connecting the cœcum with the neighbouring organs; the intestine thus becomes fixed, and contracts but feebly upon its contents, which then accumulate in, and distend it. In thirty-four cases in which the state of the digestive organs was observed, constipation was the predominant symptom in twenty-five only, and of the remaining nine, one was observed with continual diarrhœa, or diarrhœa alternating constipation.

Retraction of the limb, and limping, are produced, whenever the tumour, situated beneath the fascia iliaca, compresses the iliac muscle, or whenever the psoas and iliac muscles participate in the inflammation. These symptoms have existed in different degrees in a tenth of the cases.

In individuals affected with iliac inflammation, fever was observed in the proportion of thirty-three to ten. It is commonly mild, continuous, without paroxysms, and rarely accompanied with sympathetic derangement. In ten cases the fever was entirely wanting, a circumstance usually observed where the disease commenced obscurely and with but little pain. If the inflammation is consecutive to gangrene of the cœcum or its appendix, with fœcal effusion, the pain is generally more acute, but without that instantaneousness and violence which characterise the peritonitis produced by an irritating effusion. In this variety the fever is intense, the constipation most obstinate, and the patient tormented with bilious vomitings which generally continue during the whole course of the disease. The tumour is rapidly developed, is the seat of exceedingly acute pains, and necessarily terminates in suppuration or gangrene. With the exception of the tumour, I think the acute symptoms just enumerated belong less to the iliac phlegmon than to the ileo-cœcal and peritoneal inflammation, of which it is easy to be convinced by reading the memoir of Louyer Villermay and Dr. Meliêr.

These symptoms vary much according to the intensity of the disease, the rapidity of its progress, the susceptibility of the individual, etc. etc. As to the tumoùr itself, it presents various changes depending upon its mode of termination.

TERMINATIONS.—Phlegmonous tumours of the iliac fossæ present nearly all the terminations that are observed in other regions of the body, as resolution, suppuration, gangrene, and induration. I do not here mention delitescence, of which no one has yet cited an authentic case; nor do I think it a termination of which these inflammations are susceptible, whatever may be their seat, for the engorgement which constitutes them is too great ever to disappear suddenly.

Of the terminations of iliac phlegmon, the most happy, and at the same time, the most rare, is resolution. In the 12 cases which I have collected it occurred but twice; and in the 73, which form the sum total of those I have analyzed, it was seen nine times only. In nine others there was commencing resolution, but as the patients left the hospital before the complete disappearance of the engorgement, it is probable that several preserved for a long time a chronic induration, which in some gradually disappeared, and in others suppurated. But even admitting that in all these instances the disease ended without suppuration, (which is not probable,) we would not conclude that resolution was the ordinary termination of iliac inflammation, especially of that which supervenes during the puerperal state. This circumstance is so much the more worthy of notice, since *à priori*, the contrary would be expected, for the cellular tissue of these regions contains very little adipose matter, an anatomical condition very favourable to resolution. In all cases in which it was observed, it was very slowly effected; in one patient it occurred in 15 days, and in another in 20, but in the remainder it required from one to three months, owing probably to the slight degree of vascularity of the cellular tissue. It is not true as Levret supposes, that as the engorgement is dissipated in one side it appears in the other, for the occurrence of this propagation has hitherto been known but twice, and then it took place in so obscure a manner as to be discovered only at the autopsy.

Suppuration is the most common termination of this disease, and has been observed in 55 cases. It may be said to be almost inevitable in engorgements consecutive to labour, since it took place in 16 cases out of 17. Yet Puzos admits that the depositions following the non-secretion of the milk are easily resolved, an opinion which he appears to justify by three cases; but I will hereafter show what confidence is to be placed in the facts published by this celebrated accoucheur.

The time necessary for the formation of pus varies in different individuals; but as a general rule, when the inflammation is not gangrenous, it forms more slowly than in tumours of the same nature in other parts of the body. In the latter, pus begins to be secreted from the fifth to eighth day, while in the former, it does not take place until the twentieth or twenty-sixth. In one exception, the pus was formed and discharged by the seventh day, but in all others, the first indications of its presence were manifested on the tenth, twelfth, nineteenth, twenty-fourth, thirtieth, thirty-eighth, forty-second, and sixtieth days from the date of the first symptoms. This inactivity is owing in some cases to a want of intensity in the inflammatory action; but I have seen iliac phlegmon attended with great pain and high fever, where suppuration was not appreciable until the thirtieth day. I believe that the principal cause of this inactivity is in the organization of the cellular tissue of the iliac fossæ, which being lamellated and containing very few adipose vesicles, suppurates more slowly than that of the limbs, buttocks, and vicinity of the anus, which is of an opposite character.

The symptoms indicating the formation of pus are local and general. The latter are of great value, being often sufficient of themselves to establish a diagnosis, when the disease, from being deeply seated, presents no external local phenomena. The symptoms marking the presence of pus vary according to the more or less acute progress of the inflammation. If the latter is rapid, a momentary aggravation of the local and general symptoms is observed; the lancinations are redoubled, the fever increases, the tumour becomes more voluminous, and the evidences of compression of the organs before enumerated augment, or now appear for the first time. Thus I have seen the constipation become more obstinate in one-half the cases, when the inflammation became suppurative; and in six patients, the pain, the retraction of the limb, the difficulty of movement, and œdema about the malleoli, were then augmented, or supervened for the first time. But when the progress of the disease is slow, and attended with but little pain, and no sympathetic disturbance, this period of exacerbation is not observed. Whatever may be the rapidity with which pus is formed, it is no sooner collected in a cavity than it gives rise to symptoms which it is important to understand. In about one-third of the cases I have observed irregular chills and fever, with evening exacerbation; general sweats sometimes considerable, occurring particularly at night during sleep. These phenomena do not indicate, as some suppose, the commencement of suppuration, but are certain signs that pus is already formed, for they generally coincide with local phenomena which place the diagnosis beyond doubt. Sometimes fluctuation is felt, at first in a circumscribed point of the tumour, and afterwards over its whole surface; but in order that this may be sensible, it is not merely sufficient that the pus be accumulated, but that it be not deep seated. Bourienne cites two cases of iliac abscess, one containing fifteen ounces, and the other a pound and a half of pus, without fluctuation being detected on repeated and attentive examination. But in these obscure cases, if the surface of the tumour is carefully examined, a tremor is at times sensible which it is impossible to describe, at others a softness or kind of doughy feeling is observed, and lastly a more or less superficial œdema. These phenomena should advertise the practitioner of the existence of pus. The symptoms of compression of the cœcum, vessels and muscles before noticed, continue unabated. As to the prominence of the tumour, two things may occur; either, the suppuration tending to make an opening at the surface of the skin, the tumour becomes more and more prominent and united to the abdominal parietes, which are gradually perforated; or it takes an opposite direction, when the tumour diminishes or disappears within 24 hours, either from the spreading of the liquid towards the pelvis, or from its gaining the lumbar region by separating in its whole length the corresponding portion of the colon. It has been known to spread even farther, as in a case cited by

M. Vigla, in which the pus was discharged from incisions made on a level with the great trochanter. When suppuration is once established, it is necessary that the pus be discharged, for its reabsorption can scarcely be hoped for. Still this termination does not seem to me impossible, for I have myself seen an example to which I shall refer when on the subject of consecutive accidents.

The pus may be discharged exteriorly through the abdominal walls, or may perforate the neighbouring organs, and be discharged with the urine and fœces. The former has occurred in fourteen patients, sometimes by a spontaneous opening, but most commonly by an incision made by the physician. In fourteen other cases, the abscesses opened externally at the same time, or shortly after they had formed a route into the bladder, vagina, or large intestines.

It is evident from the disposition of the bones, that the pus cannot be discharged from the posterior part of the pelvis; it must, therefore, issue through the anterior abdominal walls, or through some of the natural openings at the inferior part of the belly. Thus Dance has seen it form a passage under the crural arch, and M. Corbin has known it follow the course of the iliac vessels. I believe there is no instance of iliac abscess opening through the inguinal ring, yet I do not regard this as impossible, although the disposition of the parts must render it exceedingly rare. When the abscess has extended to the superior part of the thigh, it is there situated at a depth varying according to the point of the iliac fossa which it previously occupied. Thus, if limited to the subperitoneal cellular tissue, the pus will appear in the thigh in front of the femoral vessels, without having affected the structure of the iliac and psoas muscles; whilst, if the abscess is developed in the subaponeurotic cellular tissue, it will descend to the little trochanter enclosed in the fibrous sheath of the fascia iliaca, after having softened or destroyed the fibres of the muscles just named.

In about two-thirds of the cases there is a tendency to form an opening through the abdominal walls near the broad ligament, or the superior spine of the ilium. It is in these points that the tumóur is most prominent, and where fluctuation is most evident, and it is consequently here, that the incision should be made for evacuating the liquid. The pus does not always follow this course, but sometimes raising the peritoneum, spreads more or less in the lumbar region. Thus M. Ménière has seen it appear behind the iliac crest, a little exterior to the insertion of the quadratus lumborum. Dance cites a case in which the abscess was discharged in the loins; and in the case of M. Vigla, already quoted, the pus was discharged near the great trochanter, it having filtrated through the fibres of the great dorsal muscle, and of its aponeurosis, and accumulated in the glutæal region between the skin and glutæus maximus, the whole surface of which was denuded. When the original seat of the abscess is in the vicinity of the cœcum, the pus sometimes extends along under the large intestine to the liver or kidney. This is accounted for by the laxity of the cellular tissue of these parts, and the habitual horizontal position of the patient, while the prominence of the psoas muscles prevents its spreading into the cavity of the pelvis. Still this may happen, and should be more common at the right than at the left, where the sigmoid flexure of the colon, or rather its mesenteric fold, crosses the direction of the psoas to enter the pelvis, and may easily allow the pus accumulated in the left iliac fossa to spread between its laminæ and arrive in contact with the walls of the rectum.

Sometimes it passes from one iliac fossa to the other, without its being possible to explain the migration by the position of the patient, or any particular disposition of the parts. One of the most curious facts of this kind is that related by M. Berard, Jr., in which an abscess, situated at the posterior and superior part of the left flank, between the colon and the abdominal parietes, extended to the hypogastrium by passing between the iliac fossa and the intestine, and from there to the right iliac fossa, by separating the peritoneum in the hypogastrium, and ascending along the median line to the umbilicus, about which it separated the skin from the subjacent tissues; its passage into the pelvis being prevented by an induration of the cellular tissue of that cavity.

The quantity of pus contained in the abscess varies from a few ounces to several pounds, and its physical properties are not always the same. In some cases it has the odour of fœces, without however, there being any reason to suppose that there is any communication with the intestine; the same happens in the case of abscess of the abdominal parietes, also leading, unjustly, to the supposition of perforation of the intestine. In these cases the morbid fluid has the white consistent character of well-formed pus. But in three cases where perforation of the intestine actually existed, the pus was serous, grayish, mixed with gas, and excessively fetid. Finally, when a stercoraceous abscess surrounding the cœcum opens externally, the pus which escapes is fetid, gaseous, mixed with fœcal matter, with foreign bodies, and sometimes with portions of muscle and dead cellular tissue.

These abscesses often open into the large intestines. This happened in ten cases. It occurs more easily on the right than on the left side, on account of the intestine being here, posteriorly, destitute of peritoneum. In very rare cases the pus may first descend into the cavity of the pelvis and then open into the rectum. The period of this mode of termination varies from the the 13th day to the third month. Sometimes the pus escapes gradually and through a single opening, and then it is with difficulty detected in the stools; in other cases it is rapidly discharged.

Abscesses sometimes open into the vagina; more frequently those on the left side. These cases are often unsuspected, because the flow frequently is gradual, and women are liable to discharges from these parts. Cases are also recorded where the abscess opened into the bladder; but in all these it opened, at the same time, either into the large intestine, or externally.

As but few cases of iliac abscess discharging by the vagina have yet been reported, I will relate one which I observed in the wards of Professor Chomel.

Case III.—Maria, 21 years of age, domestic, of good general health, had never suffered serious illness; regular at the age of 15 years, was delivered of her first child 25 days ago. Her gestation was without inconvenience; the labour easy, natural, and of 10 hours duration; no accident supervened after delivery, and she left the Hospital of the Maternity on the ninth day. The lochial discharge was profuse; the patient was feeble, but all the functions were regularly performed, and she could engage herself in housework. Twelve days ago, without any known cause, pain commenced in the hypogastrium; the right thigh became numb and heavy, and in the evening a slight œdema was remarked about the malleoli, which disappeared during the night. Walking was difficult and painful, the pain radiating from the hypogastrium through the whole length of the right pelvic extremity. The appetite diminished, and there were daily several liquid stools, accompanied with slight hypogastric colic. The patient was not confined to bed until the twelfth day, and entered the hospital the following morning, January 31st, 1837. She complains of slight supra-orbital cephalalgia; tongue moist and clean; no thirst nor inclination to vomit; complete loss of appetite; one liquid stool daily; makes water without pain; the lochia are of a greenish yellow, offensive, and pretty freely discharged. Examination by touching discovers the uterus returned to its ordinary volume, situated behind the pelvis, moveable, and without pain; the belly is soft, flaccid, and indolent under pressure, except in the right iliac fossa. A tumour is there easily circumscribed, hard, of an even surface, immoveable, and without adhesion to the abdominal parietes, which slide easily over it; percussion is perfectly dull; its vertical extent is three inches, commencing a little above Poupart's ligament; transversely it fills the whole iliac fossa, without going beyond the brim of the pelvis. It is the seat of moderate pain, extending to the whole of the right inferior extremity, which cannot be completely extended, and which offers about the malleoli a slight œdema, persisting in spite of repose and the horizontal posture. Pulse 100. (20 leeches, poultices, baths, soups, repose.)

February 2d. The tumour is less painful, but remains of the same volume. Poultices and baths continued till the 7th without producing an appreciable change. On the 8th, the tumour was diminished about one-fifth; continues hard and slightly painful on pressure. The œdema has diminished, and the inferior extremity can be more completely extended than on the preceding days. There has been constipation for several days; pulse moderately strong; slight heat of skin; during the day and more often in the evening, irregular chills and profuse general sweats, especially at night. On the 8th and 10th, half an ounce of castor oil was given followed by several liquid stools, but without any influence upon the volume of the tumour. The same condition until the 20th. From the 20th to the 27th, the chills and sweats diminished, without ceasing entirely; the pulse preserved its frequency without heat of skin; the tumour remained hard and slightly painful. On the 27th, the chills again became intense, without acceleration of the pulse, or increase of pain. Finally on the 1st of March, the patient informed us that during the night she had had a profuse discharge from the vagina, resembling phlegmonous pus both in colour and consistence. The finger introduced into the vagina can distinguish no opening; the same result with the speculum; but it is easily proved by the aid of this instrument, that the pus does not come from the uterine orifice. The tumour has diminished one-half within 24 hours; the chills and sweats have ceased; pulse fallen to 80. From the 4th to the 5th the discharges ceased; the tumour gradually diminished, and on the 15th was of the size of a small nut; it preserves its hardness, and is the seat of a few momentary lancinations. The patient walks without pain and can completely extend the leg; the œdema has disappeared from the malleoli; the stools are regular, easy and natural; pulse at 70. On the 23d, no induration can be found; and on the 24th the patient is discharged in perfect health. There is still a small whitish discharge from the vagina, mucous, not purulent, probably depending on the granulations, which exist to the extent of some lines about the orifice of the uterus.

In this case it is seen that the suppuration required about 20 days to extend from the iliac fossa to the vagina.

In whatever way the abscess may have opened, it is attended with immediate relief to the patient. Thus the symptoms produced by compression, as constipation, tympanitis, pain and difficulty in moving the thigh, disappear. This state of things, even in the fatal cases, may continue for a longer or shorter period, according to the more or less rapid progress of the disease. In the 35 cases which were cured after suppuration had taken place, 24 experienced no unfavourable symptoms after the spontaneous or artificial opening of the abscess. But in other cases relapses occurred. In eight, the discharge ceased too soon; owing to the smallness of the external openings, and fever, pain and swelling in the iliac region ensued, and continued until a new opening was made. In two other cases, the walls of the abscess inflamed, the edges of the opening became affected with erysipelas, and severe general symptoms ensued. In one case the passage became fistulous and filled with pale fungous granulations, &c. which, however, disappeared under an appropriate treatment. Those patients who recovered after relapse did not all recover at the same period. The mode in which the abscess discharged itself, appeared to exert a very decided influence upon this event. Generally speaking, those cases with the abscess opened into the large intestines, recovered the soonest. The mean duration being nine days after the opening took place. While those cases in which a lancet was used, required fifteen days at least, and often two or three months; the abscess secreting pus, as the mean duration, 27 days. It would appear that, in these cases, the fact of the abscess being *below* the opening and thus the free escape of the pus being prevented, was the real cause of the delay in the latter cases. In those cases in which relapses of various kinds were experienced, the suppuration continued from one to ten months.

If the suppuration was carried beyond certain limits, the patient soon became exhausted from the quantity, the duration, or the bad quality of the discharge. One half the patients who died were in the last stage of marasmus. Death under these circumstances, occurred from two to six months after the commencement of the disease, and from one to three months after the opening of the abscess.

One-sixth of the patients who died are carried off by peritonitis. Sometimes this occurs early in the disease, sometimes from the rupture of the abscess into the cavity of the peritoneum.

Gangrene, a most unfavourable accident, is seldom observed except in those abscesses which succeed to mortification of the cœcum or of the appendix. Except, in certain cases, where the inflammation is seated beneath the iliac fascia which may produce a true strangulation of the inflamed parts. This unfavourable condition cannot be accurately ascertained until the abscess is opened, which then discharges a fetid odour, with gas, fœces and shreds of dead cellular tissue, muscle, &c. Such cases might be supposed to have a necessarily fatal termination, yet they do sometimes recover.

Patients are sometimes exposed to accidents of different kinds after their recovery, as hernia, œdema of the lower extremity, corresponding to the side affected.

PATHOLOGICAL ANATOMY. — The lesions found at the autopsy of those who die from this disease, vary according to its terminations, its complications, and the epoch at which death supervenes. When this happens, in consequence of exhaustion, the abscess occupies a great space, extending from near the crural arch to the kidneys, or last false ribs; the walls are blackish, irregular, and flocculent in some points, smooth and polished in others, where the existence of a false mucous membrane is easily proved. The surrounding peritoneum is generally of a blackish colour from the imbibition of the fluid contained in the cavity.

When suppuration has continued for a long time, it is rare to see the pus confined to the subperitoneal cellular tissue, yet cases of this kind are mentioned, as that, for example, of M. Bérard already noticed. In these cases, the psoas, iliacus, and quadratus lumborum muscles retain their natural colour and consistence, but more commonly their fibres are blackish, soft, partially destroyed, and infiltrated with pus. This lesion affects principally the middle and superior part of the iliacus internus; the psoas is most altered at its external border. It is difficult to say in what proportion of the cases the muscles are thus affected, for authors have generally neglected to describe their appearance, but in the 12 autopsies which I have made, a greater or less alteration was observed in 10; the psoas eight times, the quadratus five times, and the iliacus 10 times. The disorganization was generally found in a higher degree in the latter than in the others, a circumstance which may enlighten us as to the primitive seat of the disease, and the order of its propagation. It will generally be impossible to determine from the appearance of the parts alone whether the subperitoneal, or the subaponeurotic cellular tissue, was the first attacked, but the order in which the symptoms occur may furnish more useful data for the solution of this question. In some instances it is difficult to discover any vestiges of the iliac fascia, but in the greater number is found more intimately adherent than usual to the peritoneum, and pierced with one or several openings of from a few lines to several inches in extent.

In more than half the cases the trunks and filaments of nerves going to the lower extremity were found traversing the purulent cavity, of a dull white colour, soft and friable; but in one third of the cases, unchanged. The iliac vessels have been seen in the centre of the abscess in two cases only; their coats bathed on all sides by pus, were soft and friable without any lesion in the interior. In a case cited by Mr. Corbin, they were found hardened, but the absence of all description prevents my determining the nature of the alteration. The relations between the abscess and the vessels explain the phenomena of compression previously enumerated; and although the vein is situated externally to the artery, still it is more often compressed than that vessel, owing to the less degree of firmness of its walls.

Lastly, I have verified what Dupytren has already said, namely, that when the abscess forms a communication with the large intestine, there is no escape of fecal matter into the purulent cavity, this occurring only in gangrene of the cœcum and of its appendix. He gave three reasons for this peculiarity; the first is, because the abscess is slowly discharged; second, because the opening is oblique; and third, because the coats of the intestine, being separated, act as a valve.

DIAGNOSIS. — The diagnosis of phlegmonous tumours of the iliac fossa is not always easy; this region being very frequently the seat of very different affections, the symptoms of which assimilate more or less those of the disease I have described. This has often given rise to sad mistakes, some of which are so gross that it is difficult to believe in their having ever been committed; such for example, as mistaking for them a tumour formed by the liver, which is always easily distinguished by palpitation and percussion, independently of the functional derangements. Simple displacement, or increase of volume of the kidneys from inflammation of their parenchyma, may sometimes lead to similar error, as in a case previously related. But if there is only alteration of the tissue without displacement, the nature of the swelling may be recognised by its form and volume, which may be exactly defined with the aid of a pleximeter. If the tissue of the kidney is inflamed and suppurates, it may easily impose on the examiner for an abscess in the cellular tissue, for there is swelling, fluctuation, and purulent stools if the abscess opens into the colon or rectum, as in an example cited by M. Cruveilhier. But a careful interrogation as to the derangements in the urinary secretion, will sufficiently expose the true nature of the disease. A diseased ovary, becoming displaced, forms a painful and more or less voluminous tumour in the iliac fossa, but may be recognised by its globular form, its sometimes uneven surface, and its mobility, which is frequently such that it seems to escape from the hand, and at times is so far displaced that it cannot be found in the iliac fossa. It is also possible to move it by acting on the uterus. Lastly when the ovarian tumour is composed of various morbid products, as is often the case, such as schirrus, encephaloid matter, cysts cartilages, &c., there is a dulness and resistance on percussion, varying in intensity according as the point percussed is in relation with these different formations.

Acute or chronic peritonitis, producing tumours sensible to the eye and touch, may lead to the suspicion of the presence of a phlegmon, but if attention is paid to the order in which the symptoms occur, the nature of the affection is easily recognised. Thus the commencement of peritonitis is marked by a chill, which is a rare symptom in phlegmon. The pain of peritonitis is acute and pungent, differing from that of phlegmon both in nature and intensity; the former is also accompanied with nausea or vomiting, hiccough, and high fever; and if a tumour is formed it has not the elasticity and hardness that is observed in iliac inflammation, but presents from the first a remarkable softness, and sometimes a fluctuation, as in a case reported by Dr. Mélier.

In two patients affected with chronic peritonitis, I found the convolutions of the intestines united by thick false membranes, forming voluminous tumours in the vicinity of the iliac fossa; but their surfaces were uneven, and their sonorousness variable, there being in no instance complete dulness; and the deformity and hardness of the belly, with the general symptoms, left no doubt as to the existence of a chronic peritonitis, a diagnosis afterwards verified by the autopsy.

Of all the diseases of which the iliac fossa are the seat, none are so often confounded with phlegmenous inflammations as tumours from hardened fœces. In volume fifth of the Archives, page 581, there is the relation of a case of tumour, taken at first for a nephritis, and afterwards for an abscess. It was even thought that a point of fluctuation could be distinguished, and the opening of it was regarded as indispensable, when the administration of a laxative before operating, caused the immediate disappearance of the tumour. Fecal tumours are more or less voluminous masses, of uneven surfaces, little or not at all painful on pressure, and diminishing or disappearing spontaneously under the peristaltic contraction of the intestines, especially after the administration of a purgative. It is not rare that the tumour may be made to pass along the intestines by means of pressure, and the dulness be thus displaced. According to M. Piorry, these tumours offer less resistance to the finger on percussion than those resulting from inflammation of the cellular tissue. The former may be sometimes attended with all the symptoms of ileus, which are never observed in the latter, for the compression exerted upon the cœcum is never sufficient to interrupt the continuity of the digestive tube. It is therefore useless to dwell upon the diagnosis between phlegmonous inflammations and intestinal invaginations or internal strangulations. I have seen an osteo-sarcoma of the iliac fossa mistaken for a phlegmonous tumour, but they may be easily distinguished by remembering that the former commences with acute, deep seated pains, which sometimes exist long before any swelling is manifested. When the latter finally appears, it is hard, immoveable, and of an uneven surface; the pain generally but little augmented by pressure, and the constitution of the patient often deeply affected. In a case communicated by M. Durand to the Anatomical Society, a fluctuating tumour was found of the size of the fœtal head at term, occupying the left iliac fossa. It had been preceded for nearly two years by pain, difficulty in walking, gradual shortening of the corresponding inferior extremity, without previous lengthening; the whole haunch swelled, all movement became impossible, and there finally supervened the straw-coloured tint, peculiar to cancerous affections. These symptoms, and the order in which they occurred, could not lead to the suspicion of phlegmonous abscess. The autopsy demonstrated a degeneration of the os ilium, and a tumour filled with a pultaceous diffluent matter, clots of blood, encephaloid tissue, and the remains of a spongy substance with sanguineous infiltration.

When the phlegmon has terminated by suppuration, it will be impossible, if attention has been paid to the progress of the symptoms, to mistake an abscess for a hernia, or an aneurism, in cases in which the pus has formed a passage through the inguinal or crural rings, or obturator hole. So an abscess by congestion, which is indolent and fluctuating from the commencement, cannot be confounded with a phlegmonous abscess, which is necessarily preceded by engorgement and induration. In some rare cases, symptomatic abscesses make their appearance, with symptoms of acute inflammation; and a diagnosis can then scarcely be founded, but upon conjecture. Thus, if an abscess is developed with acute symptoms, in the iliac fossa, or the superior part of the thigh, in a patient who has for a long time suffered from pain in the loins, or a curvature of the spine, it is probable, that such an abscess would be owing to caries of the vertebræ, rather than to an idiopathic inflammation of the cellular tissue.

Care should also be taken not to confound with resolution, the gradual discharge of an abscess into the bladder, vagina, or rectum; a mistake, which I believe to be not unfrequent. The tumour is sometimes seen partially to subside, and the suppuration to take place only in the point which touches the intestines: being then deep seated, and covered with a thick and hard layer, fluctuation is not perceptible; and the pus being in small quantity, produces no general symptoms, or such only as are very obscure. To avoid this error, there are no other means than to examine *daily* the urine and fœces; and in women to inquire as to the colour and quantity of the discharge, from the sexual organs.* Owing to neglect of this precaution, I was near deciding in the following case, that resolution had taken place, whilst in fact the tumour had suppurated, and the morbid fluid was slowly discharging with the stools.

Case IV.—Dio, aged 23 years, milliner, generally in good health, having never had other serious illness than a confluent smallpox, at the age of 13 years. Her menses appeared at the age of 18 years, and she became pregnant for the first time in 1834. Her gestation was without accident, and she was delivered at term, about the first of February, 1835, after being in labour about 15 hours. The milk fever appeared on the second day, and continued 48 hours; the breasts were much swollen. She did not nurse her child, but on the ninth day left the hospital in good health. On returning home her feet became wet, and her feelings were much outraged; on the same day she complained of irregular chills, uneasiness, and hypogastric pains; entered Hotel Dieu on the 14th of February, the fifth day of the disease. This woman is of a moderately strong constitution; face calm, tongue white and moist, bitter taste in the mouth, continual inclination to vomit, and since yesterday slight diarrhœa without colics; leucorrhœal discharge continues, but in small quantity. The belly is flaccid, and indolent, except in the hypogastrium, and especially in the left iliac fossa, where a tumour can be felt of the size of a small orange, dull, even, very hard and very painful; immovable, and having no connection with the uterus, the summit of which is on a level with the pubis. Pulse, 120, small; heat of skin moderate; (40 leeches.)

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* To prove the presence of pus in urine, and to distinguish mucus from albumen, recourse must be had to the series of experiments that Rayer (*Prolog. t.* 1*er Malad. des reins*,) and Martin Solon, (*albuminerie*,) have given in their works.

15th. Same general symptoms; the tumour is augmented by one-fifth, or one-fourth; pains, not more acute, prolonged to the median line; very painful lancinations in the superior and internal third of the left thigh, without change of colour; slightly diminished by pressure. The patient complains for the first time, of a sensation of cold in the left leg and foot; and the diminution of temperature, as compared with the limb of the opposite side, is sensible to the hand. Œdema, about the malleoli of the left leg. The pulse less developed, and less full, in the left crural artery, than in the right; and the shock of blood, was several times felt in the latter, sooner than in the former. The thigh of the affected side is partially flexed, and cannot be completely extended. (33 leeches; catap.) The discharge of blood was considerable. In the evening there was a marked diminution of the tumour; the temperature is equal in both limbs, and the pulsations of the crural arteries perfectly isochronous. The œdema, lancinations, and stiffness still persist. Pulse 112.

16th and 17th, same state. (Baths; demulc, catap.; diet.)

From the 18th to the 25th, the pulse varied from 112 to 120; the tumour scarcely painful, was of the size of an egg; the retraction and œdema gradually diminished; lancinations ceased on the 22d. Two liquid stools daily; mouth bitter, thirst moderate; urine saffron coloured; yellowness spreading over the sclerotics, alæ of the nose, and anterior surface of the thorax. (Frictions, with mercurial ointment, ʒij a day; bath every two days; catap.; broth.)

March 5th.—No icterus; diarrhœa has ceased: the patient can eat soup; pulse 80; the tumour still hard, situated an inch and a half above the crural arch, is slightly diminished. Mercurial frictions discontinued on the 12th, on account of a slight inflammation of the gums, which yielded three days after to the use of a wash of acetate of lead and laudanum.

From the 15th to the 25th, the appetite returned, but the patient remained feeble; *almost every night there are slight sweats without fever;* the tumour still hard, even dull on percussion, and of the volume of a small apple; pulse 66, slightly resistant. (Bath; quarter of a ration.)

On the 26th and 27th I examined the stools for the first time, when I saw them streaked with a whitish liquid, and here and there opaque globules, which I thought to be pus.

On the 28th none were discovered; but on the 29th about an ounce of pus was seen collected at one point, white, creamy, and tenacious; the tumour had diminished one-fourth since the preceding evening; and on the following night there were no sweats.

The stools, on the subsequent days presented no trace of pus; and the patient was discharged on the 4th of April, still feeble, feeling no pain, but carrying in the iliac fossa, an indolent and immovable induration, having a surface of about one square inch.

During the year 1835, I saw this woman several times; she had experienced no new accident, but I neglected to explore the belly.

I thought that in this patient the tumour was terminating in resolution; for at no epoch of its course, could any local phenomena indicative of the formation of pus, be discovered. Yet, notwithstanding the continued hardness of the tumour, the almost nightly recurrence of sweats induced me to suspect the existence of pus; the stools were then carefully examined, and I was soon convinced that the abscess was discharging itself into the large intestine. The evacuation was accompanied with a rapid diminution of volume in the tumour; but this circumstance alone is not sufficient to indicate suppuration; for in case of termination by resolution, I have seen the tumour diminish one half in the space of twenty-four hours, by intestinal absorption alone.

Is it possible to distinguish during life, an abscess limited to the internal iliac fossa, from suppuration of the psoas muscle, a disease which has been described under the name of psoitis? If the cases recorded under this title, in the archives of science, are received as examples of psoitis, the differential diagnosis of these two affections, would be almost impossible. Indeed, in the greater number of these cases, the suppuration affects at the same time, the cellular tissue of the psoas and iliacus muscles, and sometimes that of the quadratus lumborum; and lastly, of the subperitoneal cellular tissue. We are then told of pain, swelling, and retraction of the limb, with no mention of the side in which the symptoms occurred, or the precise point occupied by the tumours. Still I think there are signs by which an iliac phlegmon may be distinguished from an abscess in the psoas muscle; for which purpose attention must especially be paid to the seat of the pain, and the character of the tumefaction.

In inflammation of the iliac fossa, the pain is generally referred to that region; is often acute and lancinating, and always increased by pressure. In psoitis, on the contrary, the pain is referred to the loins, is dull and deep-seated, seldom occupies both sides, or is, at least, more marked in the affected side than in the other. It is not commonly increased by pressure, but by walking, and various movements of the trunk; which is seldom erect, but more or less inclined forward. On exploring the abdomen, no circumscribed tumour is found in the iliac fossa, but a simple resistance at the most internal part of this region. The tumefaction, after remaining stationary for a longer or shorter period, is accompanied with irregular chills, profuse sweats, emaciation; and finally, extending downwards, becomes more evident to the touch.

Fluctuation is then commonly observed; and it may happen that the pus, becoming engaged under the facia iliaca, may arrive at the lesser trochanter, by passing external to the crural canal, as in a case related by Dr. Christ Pfenfer, who has also seen the purulent matter of a psoitis form a prominence above and below Poupart's ligament, which divided it in two parts. Psoas abscesses offer also this peculiarity, that they have scarcely any tendency to become superficial. Retraction of the limb, with impossibility of its complete extension, and pain in the abdomen and loins on moving it, are not, as some have supposed, constant symptoms of suppuration of this muscle; for I have seen it in a great measure destroyed by this process, without there being any retraction of the corresponding limb, as in case fifth of this work; and on the other hand, have seen both pain and retraction of the thigh, produced by suppuration, limited to the iliacus internus muscle. This symptom, therefore, indicates indifferently, diseases of the psoas and of the iliacus; and to determine which of these is affected, regard must be had, as I have before said, to the seat of the pain and swelling.

Prognosis. — This disease must be regarded as a formidable malady, and should be treated accordingly. For in 73 patients, death occurred 20 times; and in 11 others the symptoms were so severe as to threaten life. The puerperal cases are more fatal than the rest, in the proportion of one-half, nearly, to one-fourth; these cases almost inevitably terminating in suppuration. In men the disease is less fatal than in women, even excepting the puerperal cases; being in the former less than one-fourth, in the latter one-third.

Stercoraceous abscesses are the most fatal: five, in seven cases.

As a general rule, the prognosis is not serious until the period of suppuration. Here the great fear is how the abscess will open. It may open into the peritoneum and prove rapidly fatal. It is generally thought that an external opening is unfavourable, because the pus being formed below the level of the opening, its free escape is prevented. Also, that an opening into the large intestine is a favourable circumstance. But facts do not fully confirm this opinion; thus, in 14 cases of the first class, two died; and of 10 cases of the second class, two also died. In those cases, where the abscess opened both externally and into the intestine, the mortality was still greater, viz. four, in seven cases. The reason for this appears to me to be, first, the smallness of the opening in these cases which open into the intestine, which does not permit the free escape of the pus, consequently, it extends itself into the cellular tissue about the intestine.

The following case, remarkable in several points of view, is an example of iliac abscess opening into the intestine, and which, nevertheless, terminated fatally.

CASE V. — Lenet, aged 44 years, fruiterer, of a moderately strong constitution, has never had serious illness, has committed no excesses, but for a year past has been much tormented with domestic troubles. Eight days ago, without any known cause, he was seized, in the evening, with chills and general lassitude, which persisted during the three subsequent days, the patient continuing at his usual occupations. At this time he felt acute pain in the abdomen, radiating from the right iliac fossa through the whole belly, but more especially towards the epigastrium. He had nausea and vomiting, with constipation, great thirst, bitter taste in the mouth, and loss of appetite. Day before yesterday he had diarrhœa with greenish stools; febrile reaction became stronger and he entered the hospital on the 16th of March, 1834. His face expresses pain and anxiety; complains much of his belly, which is swollen but not distended, and indolent at all points excepting in the right iliac fossa. A hard and very painful tumour can be there felt, at least three inches square; the skin covering it is red and swollen; the sensibility is raised to such a point that the slightest pressure is insupportable, and it is also increased by coughing; the pains are lancinating, continuous, and exacerbating from time to time; radiating towards the hypochondrium and right lumbar region. The corresponding inferior extremity is moved with facility and without pain; the urine is passed without difficulty, and deposits a little red sediment. The tongue is white and moist, the thirst intense, the anorexia complete; there are neither colics nor nausea, and the stools have been suppressed for two days. Percussion and auscultation indicate no derangement of the thoracic organs. The pulse is at 80, large, full and vibrating; insomnia complete for eight days past; no cephalalgia. (Venesec. ℥xvj; 30 leeches to the tumour; triticum repens; catap; diet.) The buffy coat of the blood drawn is half a line in thickness, the clot dense; the night was passed without sleep.

17th. The patient is not relieved. (Venesec. ℥xij., 30 leeches, catapl., bath, ext. opii gr. j. at night.) The blood offered the same characters as at the last bleeding.

18th. The patient has slept a few hours; pulse 96, full and hard; general and local state unchanged. (Venesec. ℥xij, 30 leeches, bath, catapl., ext. opii gr. ij.) In the evening the iliac fossa is less tense and painful; two yellowish liquid stools.

19th. Tumour still hard, a little flattened, suffering less acute; pulse 110. (20 leeches.)

20th. Calm during the night; the tension and pain of the tumour diminished; three liquid stools without colic; pulse 96, full and hard. (Venesec. ℥viij, bath.)

21st. Pulse 84, and softer; diarrhœa continues; tension and pain in the iliac region much diminished. (Catapl., enema, trit., rep., diet.)

From the 21st to the 31st. The pulse varied from 88 to 106; the pain in the iliac fossa has almost ceased, pressure, even, does not increase it; the swelling is not so well circumscribed; some doughyness is felt, but no fluctuation; the patient continues to have several yellowish liquid stools without any traces of pus. Thirst moderate; no appetite. (Broth and soup.)

From the 1st to the 7th of April, the patient lost much flesh; no tumour can be found in the cœcal region, but a doughyness extending to the linea alba, and ascending outwardly to the iliac crest; there is no chilliness, but at times an evening febrile exacerbation. The pulse at no time below 80.

7th. An obscure fluctuation is supposed to be felt in the iliac fossa; the superior and anterior half of the right thigh is the seat of very painful lancinations, continuous, with very frequent exacerbations, but without any appreciable change in the part. They are not increased by pressure. These pains, which appear of a neuralgic nature, disappeared on the 9th. From that epoch until the end of the month, the patient grew weaker and emaciated from day to day. The iliac fossa presents neither tumour nor œdema, but a deep-seated, obscure fluctuation can be felt. The diarrhœa continues without colics, there being daily from two to four yellowish stools, presenting here and there whitish opaque globules resembling pus. The urine offers nothing remarkable. Anorexia almost complete; pulse remains at 90; the patient is too weak to leave his bed.

From the 1st to the 10th of May, the day of his death, the emaciation and weakness made rapid progress; a large eschar formed upon the sacrum; the patient was at the same time tormented with bilious and greenish vomitings, without pain in the epigastrium; the tongue became dry, and he finally died in the last degree of marasmus, without presenting, at any time, a retraction of the right thigh.

Post mortem 33 hours after death. Nothing remarkable in the thorax.

Abdomen.—No effusion into the peritoneum; some short and moderately strong adhesions of recent formation, unite the epiploon to the cœcum and anterior abdominal walls. Immediately beneath the peritoneum a purulent cavity is found extending from the pubis, under the cœcum and colon to the curve of the latter. Opposite the pubis and its horizontal branch, there is only an infiltration of pus, in all other parts it forms a collection of three or four ounces. The pus is serous, of a dirty gray colour, and contains no fœcal matter; the psoas, iliacus, quadratus lumbrorum, and inferior part of the transversalis muscles are blackish and softened, their fibres isolated and dissected by the suppuration, which does not pass the superior brim of the pelvis. The bones are neither denuded nor affected with caries; the nerves of the right inferior extremity are bathed with the pus, are of a grayish colour externally, and friable; their volume is not modified, nor their tissue infiltrated or injected; the vessels remain permeable. At the posterior part of the cœcum there are two rounded ulcerations, one line in diameter, forming a communication between the cavity and the intestine. Two other larger ulcerations exist at the superior part of the posterior face of the ascending colon. The mucous membrane is pale and of good consistence in all points. A careful examination discovers no alteration in the remainder of the digestive, or other abdominal organs. The purulent cavity communicates with no part of the urinary passages.

TREATMENT.—Authors are unanimous in advising bloodletting in this disease, from whatever cause it may have arisen. The result of a comparison of the different cases proves that this remedy used both generally and locally is useful in the treatment of iliac abscesses, for while they rarely have the effect of producing resolution, they tend to limit the congestion and to diminish suppuration. But in order that bleeding should be useful, it must be resorted to before the sixth day.

To this may be added bathing, poultices, low diet, &c., also, laxatives, if constipation exists.

But if pus has already formed, some have advised waiting for a spontaneous opening; others fearing untoward accidents from delay, have been too hasty in having recourse to art. We should never open the abscess until we are sure of fluctuation, and also that the walls of the abscess adhere to those of the abdomen. In order to ascertain this latter point, we should ascertain if the parietes of the abdomen can be made to glide over the tumour, or not; finally, the dough-like feeling and particularly the œdema, are symptoms which indicate the propriety of opening the abscess. Before doing this, however, it is important to percuss carefully the spot into which we mean to plunge the bistoury, for it may happen, that the pus which is formed on the posterior surface of the cœcum has pushed the intestine before it; and, consequently, this might be wounded. This accident has happened once. The incision is commonly made above the crural arch and parallel to it, as this is the spot to which the abscess commonly points. It is common, also, to plunge the instrument at once into the abscess; this may do when it is very superficial; but when the abscess is deep-seated, and we are not sure that it is adherent to the parietes of the abdomen, the best method is to divide layer after layer, as in the operation for hernia. When the abscess is opened, everything should be done to favour the discharge of the pus, by placing the patient on his side, or even on his belly; by emollient poultices often renewed; by emollient, and afterwards astringent injections; and by a proper support of the powers of the constitution. Care should be taken that the opening does not close too soon; if the sac inflames, this should be treated energetically. And, finally, a well regulated compression will favour the flow of pus and the progress of cicatrization.

In cases where, from the symptoms, it would appear that the abscess had opened into the peritoneal cavity, I should be in favour of trying the plan of giving large doses of opium, as recommended by Drs. Graves and Stokes of Dublin, and M. Chomel. Finally, in cases where the abscess is so deeply seated, that an external incision cannot be resorted to with safety, I should endeavour to promote the absorption of the pus by means of repeated blisters, or even by the moxa applied over the abscess. This appears to have been successful in at least one case. Mercurial frictions seem to be of no use, except in removing induration, in which it is often successful.

REVIEWS

AND

BIBLIOGRAPHIC NOTICES.

I. *A Treatise on the Diseases of the Heart and Great Vessels, and on the Affections which may be mistaken for them. Comprising the author's view of the Physiology of the Heart's Action and Sounds, &c.* By J. Hope, M. D. Physician to St. George's Hospital, &c. &c. Third edition, corrected and greatly enlarged. London, 1839. 8vo. pp. 639.

II. *Report of Experiments on the Action of the Heart.* By C. W. Pennock, M. D. Physician to the Philadelphia Hospital, and E. M. Moore, M. D. late Resident Physician to the Frankford Asylum. Philadelphia, 1840.

Among the numerous inquiries instituted by Dr. Hope, in relation to the history and diseases of the thoracic organs, none are, perhaps, of greater importance than those belonging to the physiological action of the heart. He was the first, we believe, who attempted to establish by direct and competent experiments, those facts even now not sufficiently familiar to the medical practitioner, in relation to the sounds of the heart, which necessarily form the basis of all our accurate knowledge in the physical diagnosis of this organ. In the new edition of his work now before us, he indeed claims the priority in most of the important discoveries that have yet been made in relation to this subject: how far this may be true is certainly of but little importance to us, if we have gained the light we needed, and equally so, perhaps, to this distinguished writer, if he be permitted to hold, as he deserves, the first place among those who have investigated this important class of diseases.

It will be recollected by those familiar with the history and progress of thoracic diseases since the discovery of auscultation, that the diseases of the heart were for a long time far behind those of the chest in this progress; not from any want of attention to, or interest in the subject, but for the simple reason, that the knowledge then possessed of the physiological action of the heart was very imperfect, or absolutely wanting in many important particulars. The subject had indeed made no progress since the time of Harvey. The great facts in relation to the circulation of the blood, the muscular contraction of the different cavities, the closure of the valves to prevent regurgitation, an immense improvement indeed on our former knowledge, left little room, or even necessity, for further progress, until the discovery of a new mode of exploring the condition of these organs called for renewed inquiries into their minute structure and modes of action. The degree of uncertainty, and even the complete ignorance, that existed no longer than twenty years ago concerning many points now well established, can easily be understood by comparing the writings of Laennec with those of the writer whose work is now in our hands.

The great question that presented itself to the inquiry of the physiologist, after the discovery of auscultation, was *the nature and mechanism of the natural sounds of the heart*, which now forced themselves so strongly upon the attention of the student in this new science. On these points nothing was actually known. No direct experiments had been recorded, or if so, had not attracted attention. Even that portion of the physiology of the heart's action which related to the transmission of the blood through the heart, required to be reviewed and more accurately described. Hence we find that Laennec and his immediate followers, only devoted their great talents and early enthusiasm to the study, to fall into errors of the grossest kind.

Laennec, who, so far as we have ascertained, never made any direct experiments upon the subject, supposed that the first sound of the heart occurred during the systole of the ventricles, and the second during the systole of the auricles; but did not, as some of his commentators have supposed, offer any theory to explain their production. Subsequent observation has, however, clearly shown that even the simple statements of Laennec is incorrect, at least so far as the second sound is concerned, which, when the heart is exposed, is found to occur not during the systole of the auricles, but *after* it. Mr. Turner* was the first who correctly investigated this subject. The experiments of Dr. Hope, of the Dublin Committee of the British Association,† indeed of all observers who have operated upon the larger class of animals, have proved conclusively that *the first sound of the heart is synchronous with the systole of the ventricles, while the second sound is synchronous with their diastole.*

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* See Edinburgh Phil. Trans. 1810.

† London Medical Gazette, Aug. 1835.

Experiment by Dr. Hope.—"An ass was instantaneously deprived of motion and sensation by a smart blow upon the head. The trachea was opened and artificial respiration maintained; while, at the same time, the left ribs were sawn through near the sternum, and forcibly bent back and broken so as completely to expose the heart; the whole was accomplished in less than five minutes. Three successive motions, the auricular systole, the ventricular systole, the ventricular diastole, were distinctly recognised by all present. Five gentlemen listened twice over, and two of them three times through the stethoscope applied to the ventricle, and severally counted 1, 2, synchronously with the sounds which they heard—while the others ascertained by the touch and the sight that the sound 1, corresponded with the ventricular systole, the sound 2, with its diastole." *Page* 17.

The fact, being thus established, that the first sound of the heart is synchronous with the systole of the ventricles, and the second with their diastole; let us examine for a moment such experiments as confirm the statement of Mr. Turner, that the contraction of the auricles *precedes*, instead of following, not only the contraction of the ventricles, but their dilatation also.

Experiment by Dr. Hope.—"The pericardium of an ass being opened and the auricles and ventricles fully displayed, the auricle was seen to contract first, and the ventricle immediately afterwards; or, in more descriptive language, a slight contractile motion, accompanied by a very inconsiderable diminution in volume, was observed to commence in the auricle, and to be propagated rapidly to the ventricle. After an interval of time equal to that which intervenes between the first and second sounds of the heart, the contraction was followed by a sudden jerking diastole, or expansion of the ventricle, *and during this the second sound of the heart was heard.*"

The report of the Dublin committee, already referred to, confirms this statement in its important particular, viz. that the contraction of the auricles precedes both the systole and diastole of the ventricles.

Experiment.—"On cutting open the pericardium of a calf two days old, who had been stunned by a blow, and in whom artificial respiration was kept up, both auricular appendages were seen to project upwards with a rapid motion, and immediately afterwards to recede; when coming forwards they were swollen and soft; when receding they became hard, diminished in size, and flattened. Immediately after the recession of the auricular appendages, the ventricles contracted. When the ventricles had remained in this state a short time, they suddenly sunk down and became elongated, flat, and soft to the touch. This succession of motions was observed for some time."

An experiment of Drs. Pennock and Moore* also confirms this fact, if further confirmation is necessary.

"A calf, five days old, pulse 126, respiration 30. Destroyed by a blow on the head. Artificial respiration established in two minutes and a half. The heart was exposed in six minutes, rather hurried in its action, but soon fell to

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* Medical Examiner, vol. ii. p. 696.

120 pulsations per minute. As the heart became weaker the pulsations were slower, and we were enabled to analyze the relative contractions of the auricle and ventricle much better than at any previous experiment. They evidently bore a different relation from what we had previously supposed. The succession is as follows: — first, the auricle contracts, and the action is immediately propagated to the ventricle, which contracts instantly, accompanied with the diastole of the auricle; the diastole of the ventricle immediately follows, accompanied with a subsidence of the auricle by passive and not active contraction, which partially fills the ventricle; then follows the state of repose, at the termination of which the auricle contracts."

The order of succession in the actions of the heart, and the time when the two sounds of the heart are produced, being thus established by direct and repeated experiments, a new and still more important question arises: What is the *mechanism of these sounds*, or their mode of production? The fact just demonstrated that the first sound corresponds to the systole of the ventricles, the second to their diastole, while it prepares the way for the further investigation of their real character, still actually throws no light on the mode of their production. Let us, still guided by direct experiment, endeavour to ascertain the real truth. And this course is the more necessary from the fact, that numerous theories on this subject are already before the profession, some of which have no real claims to support, while others founded upon a safer principle, that of experiment, are at least partially true. It is the latter class only, those which claim to be founded on direct experiment, that need occupy our attention.

We will first examine the theory of M. Magendie, as being the most simple that has yet been offered. The theory of M. Magendie is this: — *The first sound of the heart is produced by the apex of the heart striking against the ribs during the contraction of the ventricles; while the second sound is caused by the striking of the body of the ventricles against the sternum during their active dilatation.** This theory M. Magendie attempts to confirm by direct experiments.

"Before removing the sternum of this cock, I will auscult the heart. I hear very distinctly the *tic-tac*; for, in these animals it is very easily heard. If now the sternum is removed, I apply the ear upon the thoracic parietes, I can only distinguish a slight tremor derived from the vibrations of the membranes upon which the heart rests. That the experiment may be more perfect, I will pass a thread through the heart near its base, and raise it so as to prevent its contact with the surrounding tissues. I listen a second time, but with all the attention I can bestow, I can hear nothing which resembles the *tic-tac* of the heart. If I place a stethoscope as near as possible to the heart without touching it, I still detect no sound. But if I apply the stethoscope directly upon the heart, — oh, then, I perceive the double shock; but in this case, the stethoscope takes the place of the sternum and ribs, nay, physically speaking, it is still more favourable for the formation and transmission of sound."

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* Magendie sur les phénomènes physiques de la vie. t. I.

The experimenter then goes on to strengthen his former experiment by alluding to a well known fact, that the sounds of the heart are much more distinct when the animal is upon its legs or inclined forward, than when placed upon its back; from which the fair inference may be drawn that the sounds of the heart may be increased by whatever tends to bring that organ more directly in contact with the parietes of the chest, and one result of this would certainly be to favour the impulse of the heart against them.

"The mode of showing this is very simple," remarks Magendie: "Here is a dog in whom I hear very distinctly the double sound of the heart, the animal being upon his legs. You remember I have already remarked to you, that if this animal be made to lie upon his back, both sounds will cease, owing to the removal or falling back of the heart from the anterior parietes of the thorax."

This experiment however did not succeed, for in whatever position the animal was placed, the sounds of the heart *continued to be heard*,—as indeed Magendie himself confessed,—so that the experiment may be regarded as more creditable to his honesty than to his theory.

M. Magendie then goes on with other experiments:

"I make a small opening in the thorax of this dog, and I introduce a small metallic rod, which I pass over the anterior surface of the heart. If now I press the heart back against the spine, so that its point can no longer strike against the ribs, and I apply the stethoscope, I can no longer hear the characteristic *tic-tac.* I distinguish some obscure and deep-seated sounds, which are caused by the friction of the organ against the membranes that envelope it, and which are entirely different from the clear natural sounds. If now I perform an experiment the *reverse* of this—if I pass the rod behind the heart, and use it as a lever to press the heart forward, so as to bring it closely in contact with the parietes of the thorax, you will cease to hear the first sound, for in order that the apex should strike against the ribs, it must first be at a certain distance from them."

"Again, here is a dog in whom the *tic-tac* of the heart is very distinct. I inject a certain quantity of warm water into the cavity of the left pleura, and now that the animal has become tranquil, I listen to the heart—the first sound is absent; the second sound is heard, but less distinctly than natural. I inject more water—the second sound has also ceased. How can these facts be explained, except by the supposition that the heart no longer strikes against the parietes of the chest?"

Such is an account of the principal experiments performed by Prof. Magendie at the College of France, during the summer of 1836, in support of his theory of the sounds of the heart, and which we ourselves witnessed.

Let us now examine how far the experiments of others confirm or refute this theory. And in the first place, let us examine those of the Dublin Committee of the British Association, first published in 1835. These experiments differ from those of Magendie in this important particular, that they were made upon a much larger class of animals, consequently the phenomena in question could be more accurately observed. It may be added also, that some of them were made in direct reference to testing Magendie's theory, which had indeed been made public long before 1836.

> "A stethoscope was applied over the sternum of a calf in which artificial respiration had been established, and both sounds of the heart were distinctly heard; the first, dull and prolonged, the second, abrupt and clear. The sternum and ribs were removed, so that the heart beat free from the contact of any part of the thorax; and a stethoscope connected with a flexible tube and ear-piece having been placed on the pericardium over the ventricles, *both sounds were distinctly heard.* The flexible ear-tube was found to be serviceable in preventing the transmission of the shock, which was felt when the common stethoscope was used, and which embarrassed the operation."

Magendie, it will be recollected, refers the sound heard under these circumstances to the striking of the heart against the stethoscope, this taking the place of the ribs and sternum.

> "*The ear was now applied near to but not touching the heart, and still both sounds were distinguishable, but feeble.*"

Again let us examine the experiments of the London Committee of the British Association* in relation to this same point. And here it will be proper to remark, that Dr. Hope claims for himself the real merit of the results arrived at by this Committee of which Dr. C. J. B. Williams, now professor in the London University, was a member; stating in the work before us that the same train of investigations was taken up by him several months previous to the labours of the Committee, and that Dr. W. was himself present. How far this may be correct it is not our present purpose to inquire; the object we are aiming at being to ascertain what actual, direct experiments have as yet been performed in relation to the sounds of the heart. The experiments of the London Committee are at least authentic, and are calculated to throw great light upon the subject.

> "A young ass was poisoned by woorara introduced into the flank. Both sounds were heard after opening the chest, when the stethoscope was applied to the great arteries. But the first sound was heard alone on the ventricles. The heart which yielded these sounds the committee were satisfied could

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* London Medical Gazette, 1836.

not strike against the chest or any other hard object. After opening the pericardium the sounds were weaker.

"A young ass was pithed. After opening the chest, the pericardium was opened and a thick layer of tow interposed between the heart and the surrounding parts, the heart continuing to act. At first the systolic, or first sound, was heard, followed by a bellows murmur, and afterwards the flapping sensation and second sound were very distinct also.

"A young ass was poisoned with essential oil of bitter almonds. The chest and pericardium were opened, and after turning over the animal upon the left side so as to make the heart hang *vertically out of the chest*, a first sound was heard through the tube applied to the ventricle, but no second sound. The same sound was heard on the right auricle posteriorly, but no second sound — the heart acting in both cases weakly."

These experiments, especially the last, refute entirely the conclusion of Magendie as to the production of the sounds of the heart by the striking of this organ against the ribs or sternum. They show conclusively, that the causes of these sounds, whatever they may be, *reside in the organ itself.* — The absence of the second sound, in the last quoted experiment, is no proof against this; but when properly considered, as can only be done when we have ascertained the true mechanism of the second sound, it will be found in perfect accordance with the rest.

The fact then being readily admitted, that the first sound of the heart exists in the heart itself, a variety of theories have been founded upon this admission, none of which resting upon conclusive experiments, are established beyond the reach of question. Some of these we will now allude to, restricting ourselves to those which appear most reasonable in their character, and especially to those founded upon an experimental inquiry. It will here however, be unnecessary to do more than to allude to the original theory of Dr. Hope, that the sounds of "the heart are occasioned by the motions of the contained fluid;" inasmuch as Dr. Hope has himself, in the two last editions of his work, rejected entirely his own theory by substituting another, which we shall presently have occasion to notice.

The next theory that we would notice is that of the London Committee, a part of whose experiments we have already quoted.

"They conclude that the first sound is a physical result of the sudden tension of the ventricles from a flaccid condition, to a state of extreme tension — *that it is essentially a muscular sound.*"

But this idea of the nature of the first sound, as already stated, is not founded on conclusive experiment, but rather on analogy. The following is the strongest experiment they are able to adduce:

"A young ass. A small quantity of woorara was introduced into the flank, but without destroying life, and the animal was despatched by a blow upon the head—heart acting very quickly and strongly. When the chest was opened, the first sound was alone audible. The auricles being pushed by the fingers into the ventricles, (so as to prevent the action of the auriculo-ventricular valves,) the first sound was heard, the second still wanting. On withdrawing the fingers from the auricles both sounds were audible, the heart acting more slowly but strongly.—An incision being then made into the left auricle, a finger was passed through the auriculo-ventricular orifice to the bottom of the left ventricle, and the fingers of the other hand being placed under the right ventricle, the heart was thus compressed between the hands, so as to obliterate the cavity—the first sound was still heard by all, but feeble."

The above experiment, it will be seen, is of an extremely complicated character: it can hardly prove any thing, unless it be the negative conclusion, that the first sound is independent of the action of the auriculo-ventricular valves, but even this may perhaps be questioned. One point however may be alluded to, although it is not now under consideration, that a very rapid and forcible action of the heart destroys the second sound. The real argument in favour of the muscular theory of the first sound is the analogical one, viz. that a contracting muscle does generate sound, as first described by Dr. Wollaston, and often noticed since. It has been particularly stated by the London Committee, that if the stethoscope be applied over the recti muscles of the abdomen, and they be made to contract rapidly and forcibly, a sound is generated not at all unlike the first sound of the heart. We have however repeated this experiment, which, if correct, would seem to carry great weight with it, but without any such result; we could never generate any sound, at all like the first sound of the heart; we were not surprised then at the following rather amusing account of the mode in which the Committee were deceived, as given by Dr. Hope in his last edition.

"I repeated this experiment, and found that the sound was owing, not to the muscular contraction at all, but to a trifling adventitious circumstance rather amusingly overlooked by the committee. Making use of a flexible stethoscope with a thin ivory extremity, such as I had seen used by the reporter of the committee, in short a common flexible ear trumpet, I found that the "systolic" sound was produced to admiration on *some* applications of the ivory cup, but not at all on *others*. On carefully scrutinizing the cause of this remarkable difference, I found that the sound was produced by nothing more than the skin being drawn out of universal contact with the edge of the cup by the sudden retractile tension of the abdominal muscles: whence air was admitted, and the sound generated on the same principle as when a cupping glass is removed: for, in fact, the softness of the abdominal integuments, by causing them to rise into the cup, creates a slight degree of vacuum. Accordingly I found that when the cup was applied and then suddenly lifted off, *without any motion whatever of the abdominal muscles*, the "systolic" sound was still produced as perfect as ever. This experiment therefore, which the London Committee have placed, as if triumphantly, in the van of their report, is a mere mistake."

The last theory that we need examine in relation to the first sound of the heart, is the *valvular theory* as it is called, or that of Rouannet. This theory has gained much celebrity by having been adopted by Professor Bouillaud in his great work on the heart. It maintains that the sudden closure and tension of the auriculo-ventricular valves, produced chiefly by the action of the blood upon them during the contraction of the ventricles, is the cause of the first sound.—A strong objection to this theory is found in one of the experiments detailed above, in which these valves were kept from acting by the pressure of the fingers, and yet the sound continued to be heard. Still it must be confessed that such complicated experiments, which change so much the natural relations of the whole organ, can hardly be regarded as completely satisfactory. Another argument against this theory is, that a sound thus generated should be sharp and abrupt, taking place at the commencement of the contraction of the ventricles, while the first sound is in fact prolonged, and continues during the whole time the ventricle is contracting.

But then, again, it may be said with great truth, that if valves are capable of generating sound, (and this is proved to be the case conclusively in relation to the sigmoid valves, and the *second sound*, as we shall directly have occasion to state,) how is it possible that the auriculo-ventricular valves, which are similar in their general structure and action, do not possess the same power? This argument is indeed unanswerable, and, although derived from analogy, yet it possesses all the force of a direct experiment. Every one, we think, who listens carefully to the sounds of the heart in its natural state, will recognise this element, and in some cases of disease it becomes still more distinct. Indeed, the great error into which the experimental inquirers into the sounds of the heart have fallen is this: a wish to ascertain a *single cause* for this first sound. Whereas it is unquestionably a *compound* sound, made up of two at least, if not more distinct elements. Another point which these observers have failed to notice distinctly, is whether this sound was precisely the same in all its characters under different circumstances; as, for instance, when heard with or without the intervention of the ribs and sternum, or of the stethoscope, which Magendie supposes may supply their place. A sound may be feeble or strong, and yet preserve all its essential characters; but if compound, and one of the causes be removed, its true character must be changed, although this change may be so slight as easily to escape the attention. Thus, although different experimenters whom we have quoted agree that the first is heard under circumstances which preclude all possibility of doubt, that a sound is generated independent of the striking of the apex against the ribs, or any other resisting body, still, we cannot doubt that this impulse is an element of the *true and natural* first sound of the heart. Indeed, it is physically impossible that it should be otherwise; the apex does, we know, strike forcibly against the ribs at each contraction of the ventricles, and this must generate sound.

As to the muscular element of the first sound, this is by no means so clearly proved. That there may be generated an abrupt sound just at the moment when the muscular tension reaches its maximum, the sound of muscular extension, as Hope calls it, that there may be, also, a more prolonged muscular sound, existing during the whole period of contraction, are points by no means proved, and are, perhaps, even more than doubtful. So that we cannot agree fully with Dr. Hope's conclusions in relation to this first sound, which are as follows:—

> "*The first sound is compound;* in consisting 1st, of valvular sound; 2d, the sound of extension—a loud smart sound produced by the abstract act of sudden jerking extension of the braced muscular walls; 3d, prolongation, and possibly an augmentation by *bruit musculaire.*"

We would rather say, in the actual state of our knowledge, *the first sound is composed of valvular sound, and of that generated by the apex of the heart striking against the ribs.*

We now pass to the consideration of such experiments as tend to throw light upon the mechanism of the *second* sound. Various theories have also been proposed to explain this sound; but it is useless to do more than examine the grounds of which the true explanation rests, viz., *the sudden tension of the sigmoid valves* at the commencement of the diastole of the ventricles. This theory is called that of Rouannet, although he acknowledges that the first idea of it was suggested to him by Professor Carswell of London. The Dublin Committee have adopted it, and it is to them that we must look for the most satisfactory experiments which prove its truth.

> "The second sound coincides with the termination of the ventricular systole, and requires for its production the integrity of the semi-lunar valves of the aorta and pulmonary artery, and seems to be caused by the sudden check given by the action of these valves to the motions of the columns of blood driven towards the heart, after each ventricular systole, by the elasticity of the arterial trunks."*

The London Committee also agree with this opinion.

> "The principal, and apparently only cause of the second normal sound of the heart, is the sudden closure of the sigmoid valves by the columns of blood that recoil back on them during the diastole, impelled by the elastic contraction of the arteries."†

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* Report of Dub. Com. London Med. Gazette, 1836.

† London Med. Gaz. 1836.

Experiment by the Dublin Committee.—"In a calf, in whom artificial respiration had been established, and the ribs and sternum removed, the ear-tube was placed on the ventricles near the apex, and in this condition the first sound was very distinctly heard, the second sound indistinctly. When the tube was placed over the origins of the large arteries, both sounds were distinctly heard, *particularly the second sound.*

A calf having been stunned, the heart was taken out and placed upon the table. The ear was applied to the surface of the ventricles, whilst they were still beating, and at each systole a sound was heard resembling that called the first sound. *No second* sound was audible.*

"A young ass was pithed; the chest having been opened, both sounds of the heart were distinct. The pulmonary artery and aorta having been cut across, we heard a first *without a second sound.* Before this division of the arteries was made, on pressing the aorta and pulmonary artery between the finger and thumb gently, a *to and fro* thrill was felt, accompanying the systole and diastole of the ventricles, and terminated by a *flap* synchronous in the two arteries."†

These experiments prove, 1st, that the second sound is more intense over the origin of the aorta, the region of the sigmoid valves, than over the ventricles, the reverse of which is true in relation to the first sound. 2d, That by removing the column of blood, by dividing the artery, and consequently preventing its recoil and the tension of the valves, you destroy the second sound.

The following experiment by the Dublin Committee, even if it stood alone, would appear to us conclusive of the fact in question:

"In a calf, in which artificial respiration had been established, the sternum and ribs removed, and the pericardium cut away, *both sounds were distinctly heard.* A fine curved needle was passed into the pulmonary artery, and another into the aorta beneath the line of attachment of one of the semi-lunar valves of each artery. The needles were then passed about half an inch upwards, and out again through the respective vessels, so as to confine a valve in each between the needle and the side of the artery. Upon applying the ear-tube over the origin of the arteries, it was found that the *second sound had ceased;* and that a sound resembling the first sound in character, and coinciding with the systole of the ventricles, was still audible.

When the heart was removed from the body, and the semi-lunar valves examined, it was found that one valve in each artery had been confined against the side of the vessel, so as to prevent its descent."

This last experiment was repeated on another calf, and with the same result, viz., the cessation of the second sound. *During the experiment, the second sound, somewhat modified, was heard to recur; and on examination it was found that the needle which had been passed into the aorta had slipped out.* On its being replaced, the second sound again ceased.

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* Dublin Report.

† London Report.

After removing this heart, also, the valves were found to have been confined, as in the last experiment.

This experiment was also repeatedly performed by the London Committee, and uniformly with the same result. The passage of awls through the sigmoid valves destroyed the second sound, and on removing them the sound returned. Pressure, also, upon the origins of the aorta and pulmonary artery, so as to obstruct the passage of the column of blood, and especially its recoil upon the valves, led to the same result—the destruction of the second sound; which returned as soon as the pressure was removed.

This latter explanation is also applicable to the experiment recorded above, in which the heart was allowed to hang-out of the chest suspended only by the great vessels. In this case the sudden curve given to these vessels would obstruct their cavities as much as external pressure.

The experiments now detailed in relation to the mechanism of the second sound of the heart are, to our minds, perfectly conclusive; and, as already stated, supersede the necessity of farther inquiry into the foundation of other theories that have been advanced in relation to it. That of Magendie, viz., that the second sound is caused by the striking of the body of the heart against the sternum during its active dilatation, is disproved by the fact, as stated in the above experiments, that this sound is distinctly heard when the sternum is removed, and without the interposition of any substance whatever with which the heart may come in contact. But the direct arguments in favour of the valvular theory are those we should regard most attentively, viz., first, that the second sound is most distinct over the region of the sigmoid valves; and, second, that it is invariably made to cease by the operation of any cause which prevents the free play and tension of these valves.

Closely connected with the study of the natural sounds of the heart, are the investigations that have been made to determine the nature and causes of those morbid sounds or *murmurs*, the sawing, filing, musical, &c., sounds, commonly classed under the generic term, "bellows sound." This class of sounds has likewise been made the subject of direct observation and experiment, especially in connection with disease; and the conclusions to which observers have been brought, if not perfectly satisfactory, are yet far in advance of what was once known.

The subject presents itself under two distinct divisions. 1st, The causes and nature of *organic* murmurs. 2d, Those of *inorganic* murmurs. As to the causes of organic murmurs in the heart and arteries, the question seems to be nearly settled to the satisfaction of all inquirers; and these are, 1st, a contracted or rough condition of an orifice or canal;

2d, an imperfect closure of an orifice, by which a portion of the mass of blood regurgitates; 3d, the friction of false membranes in the pericardium. These elements of sound being of course combined with, and dependent upon, a certain degree of action in the heart, by which the primary movement is generated.

Laennec, whose acute mind was directed to this as well as to most other points connected with the physical diagnosis of diseases of the heart, appears never to have arrived at any very settled convictions upon this subject. He recognised the co-existence of the bellows sound with valvular disease, but would not admit a contracted orifice as the real cause, because this sound was often heard when no contraction or other evidence of valvular disease was found after death. The variable character of this sound was another difficulty that he encountered, and which led him away from the right view of the subject. Again, the experiments of M. Ermann of Berlin, in relation to the generation of a sound by muscular contraction, resembling the bellows sound, seems to have fixed him in the opinion that the bellows sound over the heart and the arteries was of the same character, the sound of muscular contraction, or *spasm*.

Since the time of Laennec, however, the connection between the bellows sound and a morbid condition of the orifices of the heart has been generally admitted, but the precise mechanism of its production has been a question that has not, until of late, been in the fair way of being settled.

Dr. Corrigan of Dublin, in an essay,* which is in part experimental, offers the following explanation of the bellows sound.

> "The two conditions which constitute the mechanism of the 'bruit de soufflet,' are, 1st, a current-like motion of the blood, (instead of its natural, equable movement,) tending to produce corresponding vibrations in the sides of the cavities or arteries through which it is moving; and, 2d, a diminished tension of the parietes of the arteries or cavities themselves, in consequence of which these parietes are easily thrown into vibrations by the irregular currents of the contained fluid; which vibrations cause on the sense of touch, 'fremissement,' and on the sense of hearing, 'bruit de soufflet.'"

Dr. Corrigan thinks this a sufficient explanation of the bellows sound in all cases in which it occurs. Thus its mechanism in the most simple and perhaps constant case in which it occurs, viz. where the calibre of a tube, or of a discharging orifice, is diminished at a certain point, — may be clearly seen. Here the blood is thrown into vibrations by an obstruction to its course. To show that the vessel beyond the seat of obstruction is in a state of diminished tension, and that this condition is essential to the production of sonorous vibrations, the following experiment was made. An elastic tube was arranged in such a way that the fluid should enter at one extremity a little faster than it could flow out at the other. In this case, a short time elapsed before the tube became tense, and during this interval, its sides vibrated strongly, and a loud bellows sound was heard; but the moment the tube *became tense, both these ceased*, the fluid all the time continuing to flow freely through. A ligature passed around the middle of the tube, so as to diminish its calibre $\frac{1}{3}$, led to the same results.

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* Dublin Journal for 1836.

Dr. Corrigan thinks his explanation answers particularly as a key to the mechanism of the bellows sound in cases of insufficiency of the aortic valves, and in narrowing of the auriculo-ventricular orifices. He thinks also that it explains why some aneurisms vibrate and give a bellows sound, while others do not—these not being likely to occur when the sac is tensely filled—but if from any cause or temporary circumstance connected either with the sac or the vessel entering it, the aneurism can at all empty itself, so as even in a very slight degree to become flaccid, then its sides can vibrate and the bellows sound be generated.

The London Committee in their second Report* offer a series of experiments in which they attempt to illustrate the mechanism of the morbid sounds of the heart and arteries. They confirm the fact already established, that by diminishing the calibre of an elastic tube affording passage to a fluid, the bellows sound is the result.

"A caoutchouc tube, 18 inches long and $\frac{3}{8}$ of an inch in diameter, being attached to the stop-cock of a reservoir, the air being expelled, and the lower end of the tube being kept under water, when the water flowed perpendicularly through the tube no sound was heard—but on pressing any part of this tube so as to diminish its calibre, a blowing sound was heard, at and below the point of pressure, and this sound became more loud and whizzing as the pressure was increased. The loudest sounds were obtained at the lowest end of the tube where they were sometimes quite musical; and by increasing the pressure at regular intervals a periodical increase and raising of the sound was produced, which closely resembled the sound heard in the neck, to which the French have given the name 'bruit de diable.' It was found possible to imitate every variety of blowing, whizzing, and musical murmurs, by varying the pressure or obstruction in the tube and by altering the force of the current. When the current was strong, the least obstruction caused a murmur; but in weaker currents, greater obstructions were necessary to the same effect. Grating or rasping sounds were best produced by the effect of a strong current on a knotted thread across the diameter of the tube. The musical or uniform sounds resulted from a moderately strong current through a considerable impediment; increasing the force of the current, or the degree of obstruction, rendered them whizzing or imperfect; diminishing the current or obstruction, rendered them simply blowing. When a sound was of an appreciable pitch, the note was high in proportion to the force of the current and the amount of obstruction, a fine forcible stream producing the highest note. Musical sounds of a more variable character, like the cooing of a dove, the humming of an insect, or the whistling of wind, were produced by weak currents passing through tubes much obstructed."

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* London Medical Gazette, 1837.

Various other experiments in relation to this subject were performed by the Committee, which brought them to this conclusion: "*that a certain impediment or resistance to a liquid current, is the essential physical cause of all murmurs produced by the motion of fluids in elastic tubes.*" They deny the second conclusion of Dr. Corrigan, viz. that diminished tension in the tube beyond the seat of the obstruction is an essential part in the production of the sound, because in their first experiment, the sound was loudest when pressure was made at the lowest end of the tube; and also, because a current issuing from the end of a tube, or from the mouth of an India-rubber bottle, produced a blowing sound when it impinged directly upon an opposite surface, (as the vessel into which the water was emptied;) but unless the current was very strong, this sound was not produced when the current played upon the surface very obliquely. Neither of these experiments appear to us very conclusive. The Committee, however, admit that the more flaccid state of the portion of the tube beyond the obstruction, is a necessary concomitant of the obstruction, although not the cause of sound; and that when the sound is strong, its vibrations may be communicated to the tube beyond, which will then vibrate also and modify the note. Thus, "sometimes with a strong current a loud trumpet note would be set up, which was not altered in pitch but only in force by changing the strength of the current. This kind of note produced visible vibrations of the tube below the obstruction, and seemed to have relation to the length of the tube."

The Committee also relate in the same Report, some experiments upon animals which they think confirm their views of the mechanism of the bellows sound.

"About two inches length of the common carotid artery of a young donkey was laid bare. Different degrees of pressure, either with a stethoscope or by a probe passed under the artery, produced a variety of murmurs, blowing, sawing, filing, or cooing, at each pulse. When the stethoscope was merely placed in contact without pressure, no murmur was heard, but only a simple impulse and sound, which was distinct only when the heart acted strongly."

These experiments of Dr. Corrigan and of the London Committee, (and we are disposed to support the conclusions of the former when they differ,) seem to us to throw great light on the mechanism of murmurs, so far as they are dependent upon an *organic cause.* The opinion of Dr. Hope, as expressed in the work before us, is as follows:

"Valvular murmurs are occasioned by a collision of the particles of the blood against each other and against the containing solids, when this fluid is, by any cause, thrown into preternatural commotion during its passage through the orifice of a cavity. This commotion produces sonorous vibrations in both the fluids and the solids.

"The bellows, sawing, rasping, and continuous murmurs in the heart are louder, *cæteris paribus*, in proportion as the stream of blood through the contracted orifice is stronger.

"The strength of the current, however, is not the only circumstance which occasions loudness of murmurs; for such a configuration of the structure as breaks the stream, produces not only a rougher murmur, as already shown, but one of greater intensity."

After dwelling at some length on the subject of valvular murmurs, Dr. Hope thinks himself justified in deducing the following conclusions:

"1. The ventricular *systolic* currents through contracted orifices, from being stronger than the *diastolic*, produce louder murmurs.

"2. Considerable contractions of a rough, salient configuration, whether osseous or not, produce the rough murmurs of sawing, filing, or rasping, provided the current be that of the ventricular systole, its diastolic currents being too feeble.

"3. The pitch or key of murmurs is higher in proportion as they are generated nearer the surface, and the currents producing them are stronger, and *vice versa*. Also the key is lowered by distance independent of depth, from reverberation through the chest.

"4. Musical murmurs indicate nothing more than ordinary murmurs.

"5. Rough murmurs, and even loud and permanent bellows murmurs, indicate organic disease.

"6. Murmurs from regurgitation necessarily indicate organic disease."

Most of the above conclusions, we think, no one will be disposed to question when regarded as applied to many cases in which the bellows sound occurs, both in the heart and arteries. In relation to those higher modifications of this sound, known as the sawing, rasping, etc. sounds, still less questioning can arise. The cause is undoubtedly a permanent one, and numerous examinations and experiments have proved that it is dependent upon organic change. Still there are a large number of cases, and this is also true in relation both to the heart and the arteries, where this bellows murmur is heard, and for which no satisfactory explanation has as yet been offered. It appears and disappears without known cause, and under circumstances that forbid us to suppose any organic change in the parts affected. Hence the most contradictory explanations have been offered; every year still presents some new candidate for unravelling the mystery. Dr. Hope, among others, thinks he has discovered the true explanation.

"The physical circumstances usually attending *inorganic murmurs* of the heart and arteries are, 1st, attenuation of the blood; 2d, unfilled arteries permitting unusual vibration of their walls, and a rippling current; 3d a certain velocity of the current, occasioned by abrupt contractions of the heart."

These conclusions are founded on the following experiment:

"Eight or ten dogs were blooded more or less frequently from once to ten or twelve times, and at intervals varying from 24 to 72 hours. The results were that on the day following the first or second abstraction of blood, to the amount of eight or ten ounces, the systolic sound of the heart, previously loud and clear, became attended with a whizzing or sawing murmur, the impulse increased and became unusually smart or abrupt, and the pulse became quick and jerking (the pulse of unfilled arteries) with a thrill and a throbbing perceptible over the whole body. These phenomena increased up to the 4th or 5th bleeding, when they appeared to attain their maximum: the sawing sound being extremely loud, the impulse and pulse violently jerking and bounding, the arterial thrill or purring tremour excessive, and the throbbing perceptible, not only when the finger was placed on the artery, but when the hand pressed a large surface of the body. A hissing bellows murmur was also distinctly heard when the stethoscope was placed over any considerable artery, as the femoral or carotid. The pulse at this time generally beat from 150 to 190 per minute, its natural standard being about 120."

"The phenomina underwent the following changes in correspondence with changes in the circumstances. The animals being *extremely nervous and irritable*, the pulse was instantly accelerated 10 or 15 beats a minute, by the slightest excitement, as that of being moved or started; and the murmur and jerk sustained, in consequence, a remarkable increase.

"After reiterated venesections, the pulse became small and weak; but so long as it remained jerking, the murmur continued, although not so loud as previously.

"If venesection was omitted for three or four days, reaction subsided: and in proportion as the pulse and impulse became softer, though without a loss of *real* strength and fulness, the murmur, both of the heart and arteries, the purring tremour, the general throbbing and the nervous irritability, gradually disappeared.

"If during the full prevalence of all the phenomena, the animal was bled to the approach of syncope, the pulse and beats of the heart reduced to about 100 per minute, became feeble and soft, and at the same time lost all murmur and thrill: but in the course of from 15 to 30 minutes, reaction was reastablished, and all the symptoms recurred."

This explanation which is certainly not without its strong points, has lately been opposed by a new theory which espouses precisely opposite grounds, viz. that of M. Beau of Paris.* M. Beau founds his theory on the following experiments:

"If you take the trunk of an artery and attach it to the tube of a forcing pump, if you force with violence a large quantity of liquid into the artery, you produce at each stroke of the piston, (that is at the very moment when the artery is most distended,) a vibration sensible to the ear and the finger, the intensity of which is proportioned to the force of the piston and the distention of the tube.

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* Archives de Med., 1838.

"If you force a smaller quantity of liquid, the artery is much less distended, and the vibrations are no longer perceived, nothing is noticed but a slight pulsation at each stroke of the piston. Continuing the force of the piston and the quantity of liquid, as in this last experiment, you can still produce vibrations by compressing the tube, which are only perceived at the point where the pressure is made.

"It is clear," says M. Beau, "from these experiments, that the vibrations and the sounds which accompany them, are produced by the exaggerated friction of the liquid against the sides of the tube—but it is not less clear that the cause of this increased friction is *the large quantity of liquid in proportion to the calibre of the tube through which it passes.*"

M. Beau then applies his theory to the different morbid conditions in which the bellows sound is heard, and among others to chlorosis. He thinks he can recognise in this disease the precise condition required, viz. an unusual fulness of the arteries, which disappears, as the disease declines.

We might pass in review the mode in which Mr. Corrigan has applied his theory to the explanation of inorganic murmurs, which indeed forms a part of that of Dr. Hope, so far at least as relates to the effect of diminished tension on the vibration of elastic tubes; but enough has been advanced to show the real state of the question at present, how much in fact yet remains to be satisfactorily answered.

Before, however, leaving this subject, we would allude to the new theory of Dr. Hope, in relation to one division of thes murmurs—the *continuous*, as heard along the course of the great vessels. M. Bouillaud, in his great work,* gives a full description of this murmur, which presents itself under different degrees of intensity and tone, and is called the continuous bellows sound, the *bruit de diable*, the singing (*chant*) of the arteries. This he supposes to have its seat in the arteries, without offering any positive explanation of its real nature. Dr. Hope, on the other hand, regards this continuous murmur in its different forms as having its seat in the *veins*. He enters into a detailed discussion of the subject, but offers nothing positive in proof of his theory; except that firm pressure upon the vein, above the seat of the sound, causes it immediately to cease, and that it returns the moment this pressure is removed. He therefore proposes to call it the *venous hum*. The experiments of the London Committee brought them to the conclusion, that any cause which produces pressure on the vein, will generate this sound, even in healthy subjects.

* Traité clinique des maladies du cœur.

We have occupied more space than will perhaps be thought justifiable, in the examination we have entered into of the introductory chapters of Dr. Hope's work, especially by introducing the history of experiments, to which he has only alluded. We were led to do this because we found before us a more full and comprehensive review of these subjects than can be found in the writings of any other writer, with the exception perhaps of M. Bouillaud, whose work on the heart is far less read in this country than it deserves. Still, with all this fulness of discussion, we found many statements which were rather advanced than proved; so that we determined to go over for ourselves the original ground of experiment, and to endeavour to arrive at the truth, by the examination of well attested facts. For, after all, the great difficulty in relation to the physical diagnosis of cardiac diseases, is, to draw an accurate line between what is positive, and what is probable or uncertain. This difficulty we have endeavoured, as far as possible, to remove.

The new edition of the work before us, is also considerably enlarged and improved, in the chapters relating to the history of individual diseases. Thus, by referring to the preface, we find these improvements to have been made under the following heads: "Signs general and physical of pericarditis and endocarditis." "Connection of diseases of the heart, with apoplexy, palsy, &c." "Partial dilatation, or real aneurism of the heart." "The signs general and physical, and the pulse of softening." "Signs of adipose disease of the heart." "Aneurisms of the aorta, bursting into the pulmonary artery, and the right ventricle." "Abdominal aneurisms." "Anemic, nervous, dyspeptic, plethoric, bilious, and other sympathetic affections of the heart; with their diagnosis." "Displacements." "The pulse of diseases of the heart."

Having devoted so much time to the subjects discussed in the introductory portions of the work, during which we have examined the original communications of those observers who have made the study of the normal and abnormal sounds of the heart the subject of direct experiment, and having introduced to our pages such observations as appeared to us most positive and conclusive, our limits will not permit us to dwell on many points of interest in the above enumeration; passing over, in fact almost entirely, the great body of the volume. In no work on the diseases of the heart do we find more accurate pathological knowledge, united to that discriminating observation of symptoms, that good sense, which connects properly causes with their effects; and marks out with accuracy and judgment, the limits of our present knowledge.

J. A. S.

Anatomical, Pathological, and Therapeutic Researches, on the Yellow Fever of Gibraltar, of 1828. By P. C. A. Louis, Physician to the Hotel Dieu, &c. &c. From Observations taken by himself and M. Trousseau, as Members of the French Commission at Gibraltar. Translated from the manuscript, by G. C. Shattuck, jr. M. D. Member of the Society of Medical Observation at Paris, Fellow of the Massachusetts Medical Society. Boston, Charles C. Little, and James Brown, 1839. 8vo, pp. 374.

The work of M. Louis on Yellow Fever, is an unexpected and acceptable addition to medical literature. How it has happened that it should first appear in print in this country, is thus explained by Dr. Shattuck, in introducing his translation to the public: "Circumstances have delayed its publication in France, and some years may yet elapse before it appears in that country. Convinced of its utility, and believing that it would be appreciated by English readers, I proposed to M. Louis to translate and publish it in America. He acceded to the proposition, and placed his manuscript in my hands. It has been my endeavour to be a faithful translator and editor." In allowing his work to thus appear, M. Louis has shown his confidence in the talents and fidelity of Dr. Shattuck, and also his respect for the character and judgment of American physicians. With regard to that confidence, we do not hesitate to say, it has not been misplaced; and to that respect, we think it is not undeserved. In no quarter of the world will the work attract more attention than in the United States and West Indies. Though yellow fever occasionally prevails epidemically in a few places in Europe, it is chiefly in these countries, and especially those that bound the gulf of Mexico, that it annually appears in its pestilential form. It is to certain maritime situations of America, what the plague is to the cities of the Levant; and hence it has not inappropriately been denominated, *pestis occidentalis*.

The qualifications of M. Louis for studying yellow fever, are of the first order. He belongs to that class of pathologists who, by their autopsic inquiries, have contributed most to the advancement of medicine; a class to which belong among the dead, Bonetus, Morgagni, Corvisart, Baillie, Bayle, Laennec; and among the living, — but we will not undertake to designate them, lest a name among so many should be omitted, worthy of being honourably mentioned. But it is not merely as a pathological anatomist that M. Louis, is preëminent. He is equally distinguished for his peculiar method of studying the signs of disease, and their connections and relations with the morbid changes that occur in the anatomy of organs. It is his aim to ascertain the exact anatomical characters of disease; to determine what are essential, and what are not essential signs and lesions, in a given disorder; and to attain, if possible, a full and precise numerical view of all pathological phenomena. With such enlarged views of the objects of medical study, he entered upon his researches on yellow fever.

In thus alluding to the qualifications of M. Louis, for studying the subject of the work before us, we are led to notice the opportunities which he has had for pursuing it. M. Louis tells us in his introduction, that, "The French government, desirous of information on the origin and mode of propagation of this new epidemic of yellow fever, appointed a commission of physicians, composed of Drs. Chervin, Trousseau, and myself, who should go to Gibraltar, and collect such facts as might lead to the solution of the problem. The commission left Paris the first of November, and arrived at Gibraltar the 23d of the same month, thirty-three days before the termination of the epidemic." The day after that on which they arrived, the commission commenced their labours. Though the chief points upon which the French government desired information were not neglected, the inquiries in relation to them form no part of the present publication.

M. Louis has distributed his researches into five parts: the first consists of a few cases minutely and carefully observed, by which it was definitely settled, that this prevailing disease was yellow fever. The second part is a general description of the viscera, founded on twenty-five autopsies; of which twenty-three were of subjects that had died of yellow fever, and two of typhoid fever. The organs in the three great cavities were minutely examined. The proportional frequency of lesions are noticed; and these are compared with what is similar in the phenomena of those that die of acute diseases at Paris. The third part treats of the symptoms, and comprises much interesting matter in relation to the influence of age and sex on the mortality of the disease; and also in regard to the questions, "whether the yellow fever of Gibraltar of 1828, was the same at the commencement and termination of the epidemic? what are diagnostic symptoms? and whether a first attack of yellow fever, preserves from a second?" The fourth part, embraces an account of the various modes of treatment adopted by the military and civil practitioners; with some therapeutic modifications, suggested by the author, which he thinks might be advantageously [illegible] currence of similar circumstances. The fifth part is limited to the inquiry, whether the yellow fever is ever sporadic at Gibralter? Under this head six cases are studied; and the conclusion is, that it may thus occur. "All, then," says M. Louis, "that we can conclude, the existence of sporadic cases of yellow fever being admitted, is, that this fever may be developed at Gibralter, independently of any thing coming from America. These several parts are divided into chapters; and these again into articles, treating of special topics."

Though every part of M. Louis' researches will be found interesting to those physicians that practise within the circle of the epidemic ravages of yellow fever, there are some of his chapters which will attract their attention much more than others. With regard to every thing relating to the history of the disease, its epidemic character, the circumstances of climate and locality, peculiarity of seasons, and the insensible meteoratious influences in which it originates, prevails, and finally declines and leaves as an epidemic, American physicians have attained a great amount of knowledge. Living in the midst of its ravages they have been urged by motives stronger than the mere love of science, to study the subject with stirring zeal and untiring effort. Nor is it in relation to the history, phenomena, and laws which govern the prevalence of pestilential yellow fever, that they are extensively enlightened; they have made great and satisfactory advances in the study of its symptomatology, its diagnosis, its pathological varieties, and its modifications of diatehsis in different seasons, and in different localities. Their mode of investigation, however, has been somewhat different from that of M. Louis, and on this account we think they will anxiously desire to read the work of this distinguished pathologist, in order to ascertain whether his peculiar mode of analysing the phenomena of yellow fever is calculated to attain more precise and accurate results than their own. Should a decision be made in favour of the plan of M. Louis, we may expect from those whose situations give them opportunities of pursuing it, new and important acquisitions to our already rich stock of knowledge. If in any branch of the pathological history of yellow fever, the medical men of this country have made less progress than in others, it is in that relating to morbid anatomy of the disease. It is in respect to this part of the subject that the researches of M. Louis are especially full and interesting. The dissections in America have been conducted with care, and by competent anatomists, but they have been less minute than those of M. Louis, and, in some things are so diverse, in regard to the morbid appearances reported, that further inquiry is necessary to determine whether the discrepancies have arisen from seeing what existed only incidentally, or overlooking the actual condition of the organs. Has the difference arisen from diversity of climate and locality? However this may be, we feel assured that American physicians, seeing that M. Louis has given details of morbid organic changes which he found generally, and some of them always present, in the bodies examined by him, and which they have not observed, they will with their usual alacrity in every thing relating to this subject, engage in examining the points in which they now stand, as differing from him. That our readers may form some idea of the extent and minuteness of M. Louis' autopsic labours, we will here present them with his recapitulation of the facts analyzed by him in the second part of the work, or that relating to the morbid anatomy of the disease. These facts are deduced from the dissection of twenty-three bodies:

"The facts which I have analyzed in this second part of my work, may be summed up as follows.

"1st. In the cases where we found an effusion of serum in the arachnoid cavity, or in the lateral ventricles of the brain, or in the sub-arachnoid tissue — the quantity of it was inconsiderable.

"2nd. The pia mater was injected in six cases.

"3rd. The cortical substance of the brain was rose or violet in nine cases.

"4th. The medullary substance of the same organ was decidedly injected in five cases, of a less consistence than usual in one subject: of a slight unequal non-continuous lilac tint in another.

"5th. The cortical substance of the cerebellum was rose or violet in six cases.

"6th. In all, the spinal arachnoid contained from two to four ounces of clear serum.

"7th. The spinal marrow was flaccid through its whole extent in two cases, examined six and twenty two hours after death. Its cohesion was greater than natural in another case.

"8th The epiglottis was red, its mucous membrane more or less thickened, and partially so, in two cases.

"9th. That of the larynx was a bright red in two cases.

"10th. The mucous membrane of the trachea was red and a little softened in one case.

"11th. We found black spots, and generally many of them, through the whole thickness of the lungs, in nine subjects. They were of different dimensions, and the tissue surrounding them increased in density in most of the cases. This was sometimes entirely deprived of air in consequence of the effusion of a greater or less quantity of blood more or less combined with air. In six cases we found in the lungs tumors of a blackish red color, of an irregular form, containing no air, not granulated, more or less firm, without evident organization.

"12th. In one case we found in each pleura an effusion of six ounces. They contained one or two spoonsfull of the same liquid more or less colourless in five other cases.

"13th. In five cases we found one or two spoonsfull of lemon coloured serum in the pericardium, in one case the serum was red.

"14th. The heart was flaccid, softened or less coherent than usual, in seven cases, and in four of them its lining membrane was red.

"15th. The aorta was rose coloured or red internally in the whole or in a part of its extent in six cases.

"16th. The colour of the pharynx was slightly altered in three-fifths of the cases.

"17th. In the same cases there was a similar alteration of the tonsils, the size of which was increased in two cases.

"18th. The œsophagus was completely deprived of epidermis through its whole length in a third part of the cases. and partially so in a greater number.

"19th. The stomach was larger than natural in seven subjects, smaller than usual in three. It contained a clear or dark red coloured liquid, a blackish or a perfectly black fluid, in different quantities, in three quarters of the cases. Its mucous membrane was red through a greater or less extent in six cases; rose coloured or orange in eight cases; greyish, yellowish, or whitish, in the others. It was thickened through a greater or less extent of surface in half the cases; softened and yellow to an extreme degree in the same number; at the same time thickened, softened, and red, in a third part of the cases; mamelonated in two thirds; ulcerated in two cases. It was natural in five cases.

"20th. The mucous membrane of the duodenum was red in a little more than half the cases, softened in the same number, and thickened in one case.

"21st. The small intestine contained a greater or less quantity of reddish, brownish, blackish, or perfectly black matter, in two-thirds of the cases. Its mucous membrane was slightly injected or red in spaces, in a little less than half the cases. Its consistence was more or less diminished through its whole length, or through a part of its extent only, in rather a greater number of cases. It was partially thickened in one case, in no case was it ulcerated, and Peyer's glands were always natural.

"22d. The large intestine was of a greater size than usual in two cases. In fifteen cases, it contained a matter of a wine lees colour, or blackish, or brownish, or chocolate coloured, or entirely black. Its mucous membrane was of a pale or bright red colour in five cases, grayish, yellowish, or whitish, in the others. Its consistence was more or less diminished in three quarters of the subjects. Its thickness was increased in three cases, and twice we found it slightly ulcerated.

"23d. The mesenteric glands presented traces of inflammation in four cases, the cervical glands in one case; in another case one of the glands about the *biliary ducts* was red, softened, and very large.

"24th. The liver was of a greater size than natural in two cases; a little firmer than usual in three cases, a little less firm in three others. Its cohesion was increased in six cases, diminished in seven. Its colour was altered in every case; sometimes it was the colour of fresh butter, sometimes of a straw yellow, a clear coffee and milk colour, sometimes of a gum yellow, sometimes of an orange colour.

25th. The spleen was softened in eight cases, and to a moderate degree, with one exception. It was larger than usual in five cases."

Of the lesions above enumerated, M. Louis says, "they may be divided into two classes, some of them peculiar, or almost always peculiar to subjects dying of yellow fever, others common to those subjects and to subjects who have died of other acute diseases. The red or black matter found in the alimentary canal, and the remarkable alteration of the liver, are of the first class, all the other lesions of the second." The author lays great stress on the morbid appearance of the liver, and, though other appearances, as the presence of black matter in the stomach and bowels, were observed in most instances, this, he says, "ought to be considered as the essential anatomical character of the yellow fever of Gibraltar, in 1828." It is in reference to the condition of the liver, in the disease in question, that the widest difference exists between the observations made by M. Louis, and the pathologists of this country. How far this difference may be lessened by further research on this side of the Atlantic, or whether further inquiry will leave the results the same, remains to be determined. We shall anxiously await the issue. In confirmation of M. Louis's observation of the alteration of the liver being a constant lesion in yellow fever, we are told in a note by the translator, that M. Rufz, for some years a resident of Martinique, has informed M. Louis that in all the cases observed by him in that island, the lesion in question existed. In the same note, a similar fact is stated as occurring under the observation of Dr. Putnam, at Boston, in 1835.

It appearing from a rigorous examination of the facts that the mucous membrane of the stomach was in five cases healthy, and that Peyer's glands were, for the most part, natural; a single case only, that of a child, being noticed in which there was "an inconsiderable tumefaction" of them, M. Louis concludes that yellow fever is neither a gastritis nor a typhoid fever. Such being his conclusion, he naturally inquires: "what then is the nature of the yellow fever of Gibraltar, of 1828, and where is the seat of it?" He thinks it is not a hemorrhage, for hemorrhage did not occur in every instance, and though the liver was chiefly and essentially disordered in all the cases, he says the lesion of this organ, "in the present condition of science, does not explain the febrile symptoms in the cases where this was the only lesion, and in the second place, because it is entirely insufficient to explain the death." Though the anatomical appearances do not elucidate the special manner in which the disease destroys life, he is of opinion that they manifest the existence of a cause which is unequal in its operation on the organs, and hence he is led to ask, "how does this cause act? through the medium of what system does it exert its influence on the economy? Is it through the nervous system, is it through the blood, in which, however, we have not detected any especial modifications?"

In giving his account of the symptoms of yellow fever, M. Louis enters, with his accustomed minuteness, into a full examination of all the signs of the disease, noticing the condition of all the functions, and describing the phenomena that attend the fatal cases, as well as the severe and mild cases which recovered. The frequency and importance of each symptom in the prognosis are noticed; and, indeed, nothing is pretermitted which can aid in a thorough exposition of the peculiar character and nature of the disease. The mortality is stated to have been different in the two sexes, and at different ages. The author tells us that, "of two hundred and fifty children, short histories of whom were taken, fifteen only, that is a seventh part, died; whilst the mortality among the men was one in four and a half, and among the women, one in five and a half. This difference in favour of childhood is very great, and is owing in part to that of the constitution and strength, for there was also a difference in favour of the women, whose constitutions and strength more nearly resembled those of children." And he adds: "not only was the disease less severe in women than in men, much less in childhood than in adult age, but the same symptoms have not the same value for the prognosis, at all periods of life. Thus the black vomit, which in men was the almost certain harbinger of death, took place in a great many children who recovered."

Deeply impressed with the value of diagnosis in the practice of medicine generally, M. Louis especially considers this subject in relation to yellow fever. Certain epidemic diseases may be avoided by isolation, and others by a removal from the pestilential locality. The latter is the source of safety where yellow fever is epidemic; and hence the value of every fact that can aid in recognising the disease at the earliest period of its occurrence. M. Louis thinks that the inquiry into the diagnosis of the epidemic at Gibraltar, in 1828, will elucidate the diagnosis of the disease in the Antilles, the malady being regarded as perfectly similar in these distant situations. He considers, first, the distinguishing symptoms of severe cases; and, secondly, those of mild cases and such as exhibit few of the characteristic symptoms. He gives the following graphic description of the disease in its graver forms:

"In the most common cases of this kind, the patients experienced at the commencement, headache, a pricking sensation in the eyes, which became almost immediately red and suffused; pains in the limbs, and more or less marked febrile symptoms. These symptoms continued. To them were joined pains in the epigastrium; nausea; spontaneous vomitings some twelve or fifteen hours afterwards, rarely earlier, and sometimes even later. They were accompanied by an anxiety very variable in degree, so that some of the patients were constantly restless, and could not remain quiet in any posture, at the same time, their intellectual faculties not being deranged. On the third or fourth days of the disease, the eyes became yellow, the skin was of a similar colour, the injection of the conjunctiva diminished, and the stools were blackish. If the disease terminated in recovery, the stools resumed their natural colour, the vomitings became less frequent, or ceased entirely, and with them the pains and uncomfortable feelings. In fatal cases the vomitings continued, they became more or less blackish or completely black, the dejections were of the same colour, the yellowness increased, the heat forsook the limbs, and from twenty to thirty-six hours after the supervention of this state of things, sometimes sooner, sometimes later, that is to say, four or five or six days after the commencement of the disease, the patient died.

"Should a patient, then, exhibit the symptoms which have just been enumerated, should he inhabit a country in which the yellow fever has been observed, or only a city, the latitude of which is comprised between the limits in which the yellow fever has been observed, we might be almost certain that he was attacked by that disease; for these are the symptoms which have been observed by us in a great majority of cases of yellow fever, and they do not belong to any other disease, as we shall soon clearly see."

The difficulty of distinguishing yellow fever, particularly in cases that recover, and occasionally in those that terminate fatally, arises from some of its characteristic symptoms being absent, and others, which are present, being common to this and some other diseases. Whatever uncertainty may exist in relation to cases of this kind, "it must soon disappear," says M. Louis, "for we see, that though some of the symptoms of other diseases are identical with those of yellow fever, the symptoms taken together, and their progress, are very different." In looking at the subject in this way, M. Louis has drawn the distinctions between yellow fever and hepatitis, gastritis, and typhoid fever. In cases in which the diagnosis is not satisfactory before their fatal termination, all doubt may be dissipated by an autopsic examination of the internal organs. M. Louis observes, "that at the commencement of an epidemic of yellow fever, some of the patients manifesting all the symptoms which characterize this disease, or these symptoms not being found in a sufficient number to enable us to form an exact diagnosis, we may always have a confirmation of our diagnosis by an examination of the organs, and particularly of the liver, which, the intestinal canal not containing any black matter, may be the sole organ especially affected. This conclusion shows how important it is to study the condition of all the viscera, and to determine if any of them be always affected, and in the same manner."

The cases of yellow fever most difficult to recognise are those which are mild. In these the prominent diagnostic symptoms and even some of the less characteristic features are wanting. Cases of this kind occurring at the commencement of an epidemic, before the existence of the disease is known by the occurrence of well marked, severe, and fatal cases, and especially if they be isolated, could not be recognised as yellow fever; nor, in truth, would their true character be suspected. Such cases might be mistaken for an ephemera or a slight gastritis. "But," says M. Louis, "if many similar cases were observed in a short space of time, in the months of August and September, and in the latitude where the yellow fever prevails; if the eyes were injected from the commencement, the countenance red, the headache intense, the epigastrium sensible on pressure, we should strongly suspect this disease, although the existence of an epidemic had not been declared. There would be no doubts as to this point, even if the symptoms existed in the slightest degree only, where the disease attacked all the members, or the greater part of the members of one family in the midst of an epidemic, and in a short space of time; since, of diseases of this kind there is no other than yellow fever, which would attack a great number of persons of the same family, in so short a space of time."

Though we purposely avoid every thing like criticism in this notice of M. Louis's work, we cannot refrain from remarking that we think his view of the diagnosis of yellow fever is by no means complete. He has clearly exhibited the symptomatic, anatomical, and epidemic phenomena, which distinguish the disease from certain disorders with which it may be confounded, and with which he is familiar, as hepatitis, gastritis, and typhoid fever. But there remains the more difficult task of distinguishing yellow fever from that form of disease usually denominated bilious remittent fever, a disease especially endemic in those countries where yellow fever is principally prevalent; and which frequently assumes a degree of severity, and runs with a rapidity of course to a fatal termination, scarcely exceeded by yellow fever itself. So closely do these diseases in some of their grades or conditions resemble each other in their general character and special symptoms, that they have been regarded as modifications of one and the same fever. This opinion, however, is now generally abandoned by well informed American physicians, the two diseases being admitted to be different in their nature, arising from different epidemic causes, and, if not in all, in most instances distinguishable from each other. Were this an appropriate place to analyze on this topic, we would spread before our readers the facts by which the distinction is made.

Before closing the work of M. Louis, we must glance at his account of another matter relating to yellow fever; and one of great interest with those who live in towns, where the disease is of occasional or frequent occurrence. It is this: does a first attack of the disease preserve from a second? It was asserted by Sauvages, that a person never suffers an attack but once. Arejuta has expressed the same opinion; and Dr. Hosack of New-York, and other American physicians, state that they have never treated a patient in a second attack of the disease. These views accord with those of Michael Cabanellis, published in 1812; and of Valence, published in 1805. In 1815 the question underwent a careful and thorough examination, by Dr. Pym; which, as is well known, resulted in favour of the opinion of non-liability to a second attack. The power of a first attack to protect from a second, was, however, not regarded as demonstrated. A large number of facts was wanted to establish so important a conclusion. To obtain these, and in compliance with the wishes of the college of physicians of London, which body had become deeply interested in the decision of the question, "Sir William Pym, physician in chief of Gibraltar for the time, recommended to General Don, when the epidemic of 1828 had ceased, to appoint a commission, whose duty it should be to collect such facts as might serve to settle this point." Messrs. Louis, Chervin, and Trousseau, were members of this commission, which consisted of thirteen physicians; M. Louis had the honour of presiding in the commission; M. Trousseau was appointed secretary, and Dr. Barry vice-president. In collecting facts, their object was to settle the following two-fold question: 1. "If an individual who had had the yellow fever in Europe, was susceptible of a second attack of the same disease in Europe? 2. If an individual who had had the yellow fever in Europe, could have it a second time in America, and vice-versa?" The commission decided that simple assertions should not be admitted, and that no cases should be received in which the symptoms of the primary and second attacks could not be given. All the civil and military medical men in Gibraltar were invited to communicate the results of their experience. Complying with the invitation, "thirty-three gentlemen were called upon, to say: *first*, how many cases of yellow fever had been observed by them in the last, or in anterior epidemics, in Europe and America; and *secondly*, the number of patients, in the different epidemics, who had the yellow fever twice; and, their symptoms." The number of cases reported to have been seen by these gentlemen, in one or different epidemics, some in Spain only, and others in Europe and America, was about twenty-seven thousand. Of this number of cases, thirteen only were reported as supposed instances of double attack. After deliberating on these cases, the commission decided by vote: that, one case was evident, three were probable, and the remainder doubtful, or inadmissible. Of the twenty-seven thousand patients reported, M. Louis supposes that one half, or one third of them, had been exposed to two epidemics; and consequently that, taking the lower number, there was but one well authenticated instance of a second attack in nine thousand cases. Admitting the thirteen cases deliberated upon by the commission, as instances of second attack, the number would still be small, compared with the large number that had escaped in a second exposure to the disease. Cases of double attacks were reported by four physicians, but they were not considered by the commission, for the reason that the symptoms were not given. But allowing that each of these physicians had seen three cases, making twelve; and adding these to the thirteen, making a total of twenty-five second attacks, in nine thousand persons, who had suffered the disease once, and been subsequently exposed to it; the inference is still unimpaired, that an immunity from the disease is, for the most part, enjoyed by those who have once survived an attack. "We must, then," says M. Louis, "conclude with the commission, that a first attack of yellow fever preserves from a second, as effectually, and at least in as great a degree, as a first attack of an eruptive disease, of the smallpox, for instance, preserves from a second attack of the same disease." The protecting influence of a single attack is equally effective in those persons who pass from one country to another, as in those who continue to reside in the same place.

That portion of the volume before us which relates to the treatment of yellow fever, comprises many interesting details, in regard to the modes of practice adopted by different physicians at Gibraltar, in 1828. The views taken of this subject by the author, are in a high degree interesting, and will amply repay the reader for a careful perusal of them, as will the study of every other topic treated in the work. As it is to Dr. Shattuck we are indebted for this original appearance of M. Louis's researches on yellow fever, we tender him our thanks, believing they will receive from our profession, the high regard to which they are entitled.

J. M. S.

Des Pertes Seminales Involuntaires. Pàr M. Lallemand, Professeur de la Faculté de Médecine de Montpellier.

An Essay on Involuntary Seminal Emissions. By Professor Lallemand, 2 vols. 18 mo. Brussels edition, 1837–39.

The first volume of this well known production of M. Lallemand was presented to the public in the year 1836. The author, in the interval between the publication of the first and the second volume, has had abundant opportunity for extending his observations; — and his work in its present form, may be considered the fullest that has yet appeared on the disorders upon which it treats.

"Within the last thirteen or fourteen years," says M. Lallemand, in the introduction to his first volume, "I have collected upwards of 150 cases of involuntary seminal emission, all of these so severe as to have seriously affected the health, and in some of them even to have resulted in death." And to show how imperfectly this subject was understood at the commencement of his investigations, he states that the greater part of the cases had been directed to him from supposed diseases of the brain. Thus, singularly enough, he owes to his publication on the Pathology of the Encephalon and its appendages, the most remarkable of his cures of Diurnal Pollution. To this same vitiated habit he has also traced many supposed cases of chronic gastritis and gastro-enteritis, of organic disease of the heart, of incipient phthisis, of nervous derangement, and above all, of hypochondriasis.

From these observations it may be seen, that the disorder which we are about to consider, is frequent in its occurrence, serious in its consequences, and often difficult of detection; that it occasionally gives rise to gross mistakes in diagnosis, that its causes are exceedingly diversified, and that its treatment is often perplexing and difficult.

M. Lallemand in these researches has not confined himself simply to the disorders induced by self-pollution: he has chosen a much wider field; he has extended his inquiries into the pathology of the whole genito-urinary apparatus, so far as this apparatus, and the constitution itself may be affected by the premature, perverted, or excessive use of the generative functions; and taking involuntary discharges of the spermatic fluid as his theme, he has followed it through all its bearings, not only upon individuals, but upon society at large.

This work is divided into seven chapters, five of which, embracing 286 pages, constitute the first volume; the other volume is composed of the two remaining chapters, and contains 352 pages. The plan of the work will be best shown by a quotation or two from the "*Exposition*," or first chapter.

"Our knowledge on this subject, says M. Lallemand, is so limited, that I feel the necessity of proceeding as if with a subject entirely new; that is to say, of commencing by an exposition of facts, before arriving at any general conclusions." But these facts are exceedingly numerous: and for the sake of perspicuity, they require to be well arranged;—and taking the causes that give rise to the disorder as the most proper ground for classification, he arranges his cases under the following distinct heads:

1st. Such as are caused by the Inflammation of the spermatic organs.
2nd. " " " " " " Blenorrhagia.
3rd. " " " " " " Cutaneous Affections.
4th. " " " " " " Diseases of the Rectum.
5th. " " " " " " Abuses of the Genital Organs (including self-pollution, sodomy, &c.
6th. " " " " " " Veneral Excesses.

"In proceeding from the evident to the doubtful, from the simple to the complicated," he observes, "I will in the first place examine the causes that are most direct, and indisputable in their operation. In studying the influence of each of these, I shall first relate those cases in which the individual cause has been energetic, isolated, and as far as possible verified by autopsic examination; and finally, those in which several causes have operated either simultaneously or in succession." After this mode of detailing his cases with the comments attached to them, he makes at the end of each chapter a general *résumé*, in which he speaks more particularly of the symptoms and treatment.

Commencing then with what he considers the most frequent, immediate, and energetic of those causes, he devotes his second chapter to

Inflammation of the Spermatic Organs. — In this he has illustrated by a series of nine cases, all the disorders, local and constitutional, that are likely to be induced by inflammation of these organs; the mode in which it gives rise to involuntary emissions; and the anatomical changes that may be detected after death. We shall not attempt an analysis of these, but content ourselves with a few notices of his *résumé.*

Symptoms of Involuntary Emission, when from this cause. — In the first two cases in which the disease had resulted from local inflammation, and terminated in apoplexy, the cerebral symptoms had been preceded for a long time by a notable derangement in the other functions. Thus digestion was impaired, the stomach was unable to bear alcoholic drinks, or highly seasoned food, or food of a very nutritious quality; the bowels were obstinately constipated, and tympanitic: coitus was at first less and less frequent, then precipitate, and finally impracticable. "The patient," says M. Lallemand, "is discontented with himself and all around him; he is tormented with flatulence, and frequent eructations: he shuns society and its attachments; he is disgusted with all sorts of amusement; he falls into a state of melancholy, and becomes irascible, misanthropic, and hypochondriacal. Occupied with a single object, he manifests the most profound indifference for everything not immediately pertaining to his health. The cerebral functions are not more enfeebled than the others; but their disorder is the most serious in its consequences, and the most easily ascertained. The memory is impaired, the train of ideas is easily interrupted, and the slightest mental emotion determines the blood towards the brain. These local determinations are attended with a remarkable feebleness of pulse, coldness of the limbs, general uneasiness, anxiety, agitation in all the perceptive faculties, and a remarkable desire for movement. These symptoms are soon followed by pallor of the face, general debility, and frightful abjection, *without any one part of the body being more affected than the rest.*"

The state of mind here described, is not to be confounded with delirium; nor should the disordered condition of the digestive organs be mistaken for inflammation.

Lesions. — The pathological condition of the spermatic organs, described by our author, as resulting from inflammation, and connected with involuntary seminal emissions, may be ranked among the most important portions of his book. The influence of the urethra upon all the organs more or less intimately connected with it, has a special bearing on the history of diurnal pollution. To have a correct idea of this influence, it is but fit to observe how easily inflammation may extend, step by step, along the mucous surfaces from the urethra itself, in one direction, through the prostatic ducts, the vesiculæ seminales, and spermatic vessels, to the testicles; and in the other, through the bladder and ureters, to the kidneys. Leaving the urethra for the present, our author goes on to describe the pathological changes in the parts connected with it.

1st, *Of the Prostate.* — The puriform discharge attending gonorrhœa, according to M. Lallemand, is furnished more abundantly by the follicles of the prostate, than by those in any other portion of the urethra: and of this fact, says he, post-mortem inspection leaves not the slightest doubt. By his fifth case he shows, that while inflammation of the urethra was yet acute, the follicles of the prostate were engorged with concrete and tenacious pus, and formed a solid yellowish body resembling a scrofulous tubercle. But the cellular tissue uniting these follicles together still remained healthy, and the follicles might be isolated from one another so as to demonstrate the seat and nature of the alteration. At a later period of the disease, the prostate is found infiltrated with purulent or pultaceous matter that can easily be pressed out in grains. The cellular structure is now involved in the inflammation, but suppuration is not yet well established in it. At a still later period, purulent matter may be forced through all the excretory ducts, by the slightest pressure; and the pus is collected into distinct abscesses, as large as a pea or larger, in the parenchyma of the prostate. In his third case this organ was thrice its natural size, and yielded by pressure an abundance of purulent matter; *it contained about thirty small abscesses, and about as many deposits in the form of crude miliary tubercles.* In his first case the prostate had been partially destroyed, and its fibrous envelope distended with an elastic puriform matter, which could be forced into the urethra through openings that had resulted from the destruction of the parietes of the mucous follicles. When the inflammation in the body of the prostate is less intense, there is deposited, instead of pus, an albuminous matter, which produces an indolent enlargement, and this, if not promptly and completely resolved, results in permanent induration.

Such is a summary of M. Lallemand's account of the pathological changes, produced by inflammation, in the prostate gland; and which, as we have reason to believe, is essentially correct. We have ourselves seen the parenchyma of this organ absolutely obliterated after an acute attack of inflammation, and its fibrous capsule presenting a hollow pouch at the neck of the bladder.

2nd, *Of the Spermatic Organs.* — The transmission of inflammation from the urethra to these organs, is most commonly effected by continuity of tissue, along the mucous surfaces; but in some cases, as where it extends from the testicle to the tunica vaginalis, or from the vesiculæ seminales to the rectum, it is propagated simply by contiguity of surface.

The Ejaculatory Ducts.—In one of his cases the orifice of these ducts, instead of being round, presented a long, narrow, and irregular cleft, and the ducts themselves were remarkably dilated. In his eighth case, the opening was sufficiently large to admit a goose quill. The ducts themselves, in most cases, participated in the dilatation of their orifices; in one case they were isolated, as if by the process of dissection, from the substance of the prostate: in others they were thickened, indurated, cartilaginous, or even partially ossified. In cases where the tumefaction of the prostate is considerable, these conduits may be atrophied, or obliterated by pressure, as in his ninth case.

The Vesiculæ Seminales.—Morbid deposits collected in these organs, are not always readily evacuated; and it is evident that the purulent or tuberculous matter occasionally deposited here, must prevent the spermatic fluid from entering into these receptacles, and hence prove the immediate cause of seminal emissions. The parietes of these bodies may be found congested, indurated, deformed, thickened, cartilagineous, or ossified. (See cases 1st, 3d, 8th.) The seminal fluid deposited in these organs is sometimes altered in its appearance. In one instance, the receptacle on one side contained a fluid resembling meconium, whilst that on the other side was distended with pus.

The Vasa Deferentia.—These vessels may be irregular, distended, or pouched with purulent matter, or their parietes may be so thickened as to obliterate their cavity.

The Testicles.—Every one is familiar with the obstinacy of the engorgements of the epididymis and corpus highmorianum resulting from orchitis. In obliteration of the vas deferens, these parts become engorged with spermatic fluid; and this finding no outlet through its natural channel, causes inflammation here, which may result in abscesses, and the formation of true spermatic fistulæ. But if the obliteration of the vas deferens is not followed by a rupture of this sort, the testicle and parts attached to it remain swollen and painful for a length of time, until finally, the organ loses its secreting power and becomes atrophied. Purulent collections forming in the testicle are evacuated with difficulty; hence, it often happens in circumscribed inflammation, that the disease is arrested before the purulent deposit has found an outlet. But if it be not removed by absorption, it remains as a source of local irritation, to excite fresh attacks of inflammation, until the tubuli seminiferi are destroyed, and the organ wasted so as to leave nothing but its fibrous envelope. When the inflammation of the testicle is chronic and frequently renewed, instead of pus, there is deposited within its texture a gelatino-albuminous matter, which becomes thick, and proves the source of permanent enlargement and induration.

3d, Of the Urinary Organs. — Phenomena similar to those just mentioned, as the more or less direct consequence of a primary inflammation of the urethra, are also to be observed in the urinary organs. Thus we have morbid changes of all sorts, sometimes amounting to actual ulceration, on the mucous lining of the bladder, ureters, and pelves of the kidneys. These latter organs are found tumified and congested, or containing in their proper tissue abscesses of all sizes and in all stages of development, and mixed up with tuberculous deposits, either crude or in a softened state. After successive attacks of inflammation, the proper texture of the kidney is completely destroyed, or altered, as in the degenerations of the prostate and testicle. There is, in fact, a striking similarity between the lesions of the genital and the urinary organs; and, says M. Lallemand, if the kidneys were as accessible to our senses as the testicles are, this similitude would, doubtless, appear still more remarkable. Taking up this last idea, he has followed it at considerable length, in tracing the analogies between the diseases of the kidney, on one hand, and those of the testicle on the other; but we have not the disposition, had we the time, to follow him through these speculations.

Blenorrhagia. — The next cause of involuntary seminal emissions, upon which our author dwells in full, and to which he devotes his third chapter, is blenorrhagia. In this he is, in fact, but limiting the sphere of what he has already stated in speaking of inflammation of the urethra. He has given the history of nineteen cases, all showing the influence of this local disease in giving rise to involuntary pollutions, and to the train of evils, local and constitutional, thence resulting. Yet, according to his own statement, it is rare for gonorrhœa alone to lead to these deplorable results. There are numerous other accessory causes, to the most important of which we will come directly.

But in what way does Gonorrhœa act in determining the disorders under consideration? This, he attempts to show, is by leaving the mucous lining of the urethra, and particularly the prostatic portion of it, for a length of time in an excessively irritable condition. After an attack of gonorrhœa, says he, some of the patients experienced symptoms indicative of disease of the prostate, such as a notable enlargement of that organ, a sense of weight in the rectum and at the perinœum, darting pains at the neck of the bladder and behind the pubis; and in one case, the disease of the prostate terminated in suppuration.

From this organ, as shown in the preceding chapter, the morbid action is extended throughout the whole genito-urinary apparatus; hence the exalted and vitiated secretions from the kidneys, testicles, &c. "The urine is not only more abundant, it has also undergone a change of character; and independent of the admixture of purulent and mucous secretions, it is pale and watery, and contains a smaller amount of urea and uric acid than in its normal condition. The spermatic fluid has equally lost its odour, colour, and consistence." The patients, in consequence of the irritation at the neck of the bladder, are troubled with frequent micturition, and some of them are not able to retain their urine longer than half an hour at a time. In all such cases the desire is imperative and irresistible; and the emission is precipitate and convulsive. These phenomena on the part of the bladder, are but a counterpart of what takes place in the vesiculæ seminales; and, according to M. Lallemand, patients who have a sufficient knowledge of the situation of these receptacles, are sensible of their spasmodic contraction previous to an involuntary emission of semen. But to show more conclusively that these two orders of symptoms have a mutual dependence, he remarks, that they are both meliorated or aggravated, in general at the same time, and by the same causes.

Treatment of Involuntary Emissions when induced by Gonorrhœa.— After the foregoing explanation of the mechanism of involuntary seminal emissions, it is no longer astonishing that M. Lallemand's peculiar mode of treatment, *by cauterizing the prostatic portion of the urethra*, has proved so efficient in the cure of this disorder. The efficacy of nitrate of silver in the treatment of chronic inflammation of the mucous surfaces, is familiar to every one. "I have been in the habit of using it successfully," says our author, "in chronic inflammation of the vagina and uterus, and in catarrh of the bladder, a disease remarkably obstinate under all other forms of treatment. It produces the same good effects upon the prostatic portion of the urethra." "It completely modifies the organization and sensibility of the mucous membrane, and the change is felt at once by the other organs immediately under the influence of this."

But in almost every case the spermatic organs are in a state of debility, as well as of irritation; there is, at the same time, with the excessive sensibility, an actual loss of tone. Yet these two conditions existing simultaneously, may be in variable proportions; and it is this fact that has so frequently disconcerted the practitioner, and dispirited the patient. "For antiphlogistics and tonics, emollients and excitants, repose and fatigue, produce good or bad effects, according as the irritation or debility happens to preponderate." Now, the caustic application has the merit of combating these two conditions at the same time, and hence the reason why the caustic is of itself often sufficient to lead to a perfect cure.

But when the disease has existed for a great length of time, the general system becomes debilitated, so that after the chronic inflammation has been subdued, it is requisite to restore the relaxed tissues to their pristine energy. Nothing at this period opposes the administration of tonics; they, in fact, complete the cure already begun by cauterization. It is thus that cold baths, sulphur baths, ice, &c., have succeeded in the latter stage after having failed at the commencement. (See his cases 22 to 28 inclusive.)

M. Lallemand's mode of applying the caustic by means of his *porte-cautaire*, consisting of a canula and stilet, with a small depression or trough near the end, on the side of the stilet, has been too long known to the profession to require at the present time any formal description.

Cutaneous Affections.—The next very efficient cause of involuntary pollutions, is the irritation of cutaneous eruptions; and to these M. Lallemand devotes his fourth chapter, in which he gives the details of nine cases.

In most of these the patients had previously suffered either from gonorrhœa, or from other disease in the neighbourhood of the genital organs; so that, on the whole, after looking over the contents of this chapter, we are not satisfied that M. L. has proved the relationship between cutaneous affections and the involuntary emissions of semen, to be so intimate as he might have done. It is, nevertheless, a fact noted not for the first time by this author, that inflammation of the urethra is more apt to be severe in persons troubled with chronic diseases of the skin than in others; and so far as this goes it is favourable to the opinion which he endeavours to establish, that cutaneous affections have a tendency to concentrate upon the genito-urinary organs, and thus excite the disease in question. But the point is not to be determined in this manner; the author should have been more definite in specifying the forms of eruption in which this tendency is clearly ascertained; for some of them have, doubtless, a greater disposition than others to affect these mucous surfaces. Thus the papular eruptions, particularly prurigo, often insinuate themselves along the mucous membranes. The amount of suffering produced by these about the rectum and vagina is familiar to almost every practitioner; and there is no reason why they may not extend along the surface of the urethra to the neck of the bladder, producing symptoms analogous to those of contagious blenorrhagia, and finally resulting in the disorder of which we are treating.

The mode of managing cases depending on such causes, must of course vary with the nature of the eruption itself. M. L. in his epitome of the treatment, speaks only of cauterization and of thermal and sulphurous baths.

Diseases of the Rectum. — Thus far we have been confined to the causes that act directly upon the mucous surface of the urethra. But in the present chapter we proceed to such as operate upon the vesiculæ seminales by contiguity of tissue, through the rectum.

The thirteen cases detailed in this chapter, so far as they relate to the immediate cause of seminal emissions, are exceedingly diversified. In some of them the disease was excited merely by mechanical compression against the vesiculæ seminales; in others the cause was essentially vital; but in the great majority, distension and irritation of the intestine were both combined, and acted simultaneously. Every cause capable of obstructing the free evacuation of the bowels, or producing constipation, operates in the first way; but most of these also may excite irritation, and thus operate in a compound manner. Among these mechanical obstructions we have stricture, scirrhus, and tumours in the rectum, hemorrhoidal excrescences, spasm, and fissure of the anus. Our author might also have enumerated prolapsus ani. It is clear, says he, that every physical action, such as that of riding, long continuance in a sitting posture, every thing, in short, that leads to constipation of the bowels, operates in the same manner. Among the group of causes operating directly by irritation, he enumerates, 1st, diarrhœa, of which he gives a single case; 2d, ascarides in the intestine, of which he has given four cases; 3d, eruptions at the verge of the anus, of which he gives two cases. He also alludes to the influence of stimulating enemata, and to that of certain drastic purgatives, all of which may conspire to produce the same result.

Again, he has shown by his 18th, 27th, and 46th cases, that chronic inflammation of the genito-urinary organs may, in turn, lead to disease of the rectum, so severe as to render it unable to retain the fœcal matter for any length of time; and that under these circumstances, the cauterization of the urethra has at once sufficed for overcoming both diseases; and that patients have been cured of troublesome diarrhœa, incontinence of urine, and involuntary discharges of semen, all at the same time. Thus we see a mutual relation between these parts, growing out of their juxtaposition, which is of the utmost importance to be remembered in the treatment of their several diseases, and above all, in the treatment of involuntary seminal discharges.

Abuses of the Genital Organs. — This chapter, which occupies the first half of the second volume, is dedicated to all the abuses of the genital organs, (whether from premature, or perverted and unnatural actions,) that are likely to give rise to the disease in question.

By the term *abuse*, M. Lallemand wishes to imply any action of the genital organs that cannot have for its results the propagation of the species. Under this head, he therefore includes onanism, masturbation, and every other variety of self-pollution, as well as all unnatural intercourse between different individuals. "There is, without doubt," says he, "an intimate connection between these *abuses* and what may be called *venereal excesses*, but the nature of this work requires that the two subjects should be treated separately." After detailing fourteen cases, illustrating the various forms of these abuses, he proceeds to the inquiry:

What are the inherent causes of these abuses? — The first and most important of these is to be found in the peculiar organization of man. Among most of the lower animals sexual desire is excited in the male only by the presence of the female during the period of œstrum. But in men, the excitement may occur spontaneously; and from the time the testicles are fully developed until the decay of age, the secretion of spermatic fluid is continually going on; it may be augmented or diminished by excitement or repose; but it is never completely suspended so long as the testicles preserve their integrity.

The configuration of the superior extremities has also some influence in giving rise to these abuses. Some of the lower animals, as the dog, the elephant, &c., during a state of excitement have been known to produce frequent ejaculations by certain movements of their bodies, or by rubbing themselves briskly against the ground. The bear has a free use of his fore-paws, and this animal, according to our author, has often been observed, in the Garden of Plants, practising masturbation. The monkey, still more closely resembling man in the conformation of his superior extremities, is well known to give way, in the most furious manner, to this habit.

To these physiological dispositions, which are more marked in man than any other animal, must be added the accidental influence of pathological causes. We have already alluded to the effect produced by ascarides in the rectum, to eruptions, &c., in the neighbourhood of the genital organs. To these may be added the irritation from sebaceous matter about the prepuce, and from diseases in parts of the body remote from the organs of generation; as, for instance, irritation of the cerebellum. Mr. Desportes, according to our author, has pointed out the coexistence of these abuses with a species of angina; others have spoken of them in connection with phthisis pulmonalis. He might also have alluded to the strong desire for sexual gratification occasionally observed in persons convalescing from fevers and other diseases. Dr. Rush has spoken of this in his papers on the yellow fever.

What are the external causes of these abuses? — In speaking of these, M. Lallemand confines himself, for the most part, to *such as are operative before the age of puberty.*

Parents, and even physicians, are too negligent of the habits of children, in respect to these abuses; and as M. L. very justly remarks, they are too apt to suppose that the influence of the genital organs is imperceptible on the economy prior to the age of puberty. This, however, is a serious mistake. Many causes, during childhood, may give rise to these abuses; and the following case is a striking proof that even the cradle is not exempt from them:

An infant at the breast, says M. L. had become the victim of his nurses stupidity. She had observed that the cries of the child could be assuaged, and that he could easily be composed to sleep by fingering his genital organs. She therefore frequently resorted to this process, without remarking that the repose of the infant was preceded by spasmodic movements. These movements augmented, and at length took on the character of convulsions. The infant became emaciated, and he was less easily calmed than formerly. M. L. at first attributed his disease to worms, afterwards to dentition and other causes. But having marked certain gestures of the child, he was led to examine the parts of generation. The penis was found in a state of erection; the cause of disease was no longer a mystery. The nurse, says he, had not been aware of acting indiscreetly, believing that at the tender age of this infant, she might handle these parts with as little impunity as the chin. It afterwards became necessary to dismiss her; for it was found that her mere presence was sufficient to awaken in the infant these premature sensations which had already became habitual. Considerable time was required for overcoming the effect of these impressions; but after this, the infant rapidly recovered.

Cases of a similar nature are related by Deslandes, Biett, Hallé, and others; and the case treated by Dr. Goupil, as related by Deslandes, is doubtless to be explained in the same manner. The infant here referred to, when taken from his nurse at the age of eighteen months, was already in the habit of masturbation, which resulted in spasmodic attacks simulating epilepsy. The vicious propensity was cured with difficulty at the age of four years, and the spasmodic symptoms soon afterwards disappeared.

After this exposition, it is needless to enter into an account of all the causes likely to give rise to these abuses in children at a later period. There is one cause, however, upon which M. L. dwells with considerable emphasis, and that is the precocity of some children in relation to sexual enjoyment. After alluding to several instances of this sort in children even of the tenderest years, "it results from these facts," says he, "that in a great number of children the generative instinct is manifested with great energy many years before the evolution of the genital organs has commenced." And hence his practical inference, that the circumspection of parents and guardians in relation to the habits of children, is not to be deferred until towards the approach of puberty.

He takes much pains to show that the abuses of which he speaks, are too apt to be developed among children who have been taken from under the immediate care of their relations, and placed at boarding-schools remote from home. "If I may judge from my own experience," says he, "nine cases out of ten, in which the health has been injured either directly or indirectly by masturbation, have originated among boys at boarding-school or college." In view of this subject he enters into a long exposition of the evils of the modern modes of educating youth; but in this again we are unable to follow him. His next inquiry is,

What influence has the progress of civilization had upon the abuses of the genital organs? — We cannot enter into the merits of this question, which our author has pursued at considerable length, and the solution of which appears to be more difficult than profitable. He here points out the distinction between onanism and masturbation; and, without assigning anything like a satisfactory reason, gives, as his opinion, that this latter vice is one of modern origin, or at least has been far more common of late than formerly; that its ravages are continually increasing; and that these must continue to be the scourge of society, in which mankind are enervated by indolence, excessive refinement, and by the forced and premature cultivation of the intellectual powers, whilst the physical developement is neglected.

Let us look for a moment at the remedial means which he proposes. "We may, doubtless, do something," says he, "towards diminishing the evil, by assiduous attention to the habits of children, by the proper cultivation of their minds, and by instilling into them the principles of morality and religion. But," continues he, "what are these means against practices so easily dissimulated, and that seize with so much power upon those that once give way to them?" Something more is necessary; the desire itself, should, as far as possible, be subdued by various occupations, and above all by bodily fatigue. The voluntary continence of the athletæ, opposed to the almost inevitable corruption of the shepherd life, might be sufficient to open our eyes on this point. And what proves in the clearest manner that sloth and idleness are the real causes of the ravages of masturbation among shepherds, is, that this vice is comparatively rare among the cultivators of the soil, who live under circumstances nearly similar, but whose bodies are habitually employed in active labour. The same observation is applicable to the working classes of our cities. I do not pretend, he continues, that habitual bodily fatigue can completely eradicate these abuses; but the children who are thus exercised cannot give way to them so passionately or so frequently as those of our less industrious classes.

Everything then concurs to demonstrate the importance of bodily exercise, not only as the safest means of invigorating the health, of developing the muscular power, of beautifying the form, and increasing its agility, but above all, as the most powerful preventive we possess against the abuses under consideration.

The next inquiry is into *the nature of these abuses.* On this subject he describes, by examples, the various modes that are employed by those habituated to self pollution, and other unnatural indulgences of like nature, for the gratification of their passions. With the disgusting details of this section we are unwilling to meddle. Suffice it to state, that in order to overcome these vicious habits, it is not enough to prevent physical interference, by the hand or otherwise, with the organs of generation. It is further necessary to prevent all erotic excitation of the senses, and all concentration of thought upon lascivious subjects.

The effect of these abuses comes next in order. Writers have hitherto confounded the symptoms produced by masturbation during childhood, with the effects of it upon adults. Between the two, however, according to M. Lallemand, there are some distinctive points which give to each class of symptoms its peculiar physiognomy.

However young the child may be, he grows fretful, morose, and passionate; his sleep is short and broken, he falls into a state of marasmus, and finally succumbs, if not interrupted in his fatal propensity. In the adult, the same symptoms are manifested, and may lead to the same result. But in the child there is to be superadded a train of nervous symptoms more or less severe, which are not observed at all in the adult, or only in a slight degree. These are spasmodic contractions, convulsive movements either partial or general, eclampsia, epilepsy, and a species of paralysis, accompanied with contraction of the limbs. "These *spasmodic* affections," observes M. L. "were observed in all the children of whom I have had occasion to speak," and other cases abounded in similar symptoms. In short, the effects of these abuses during childhood, are wholly attributable to irritation of the nervous system; for, in children, there is no exhausting discharge. But in the adult, though the nervous system continues to suffer, more especially while the seminal emissions continue voluntary, yet the nervous irritation is by no means so severe; and the repeated discharges of seminal fluid greatly modify its character and consequences.

In confirmation of the fact that the effects of masturbation differ at different ages, M. L. further adds, that whenever this passion is subdued in children, they are sure to recover rapidly; but such is far from being always the case after the age of puberty.

What has now been said of children is also applicable to females, as shown by the cases of nymphomania, in which the clitoris was excised. The state of these miserable patients was such as to justify this practice, and the result of it was a prompt restoration to health.

There are some individuals wholly abandoned to these abuses, who nevertheless suffer but little from their ill effects; whilst the health of others is brought rapidly under their influence. These diversities are not always owing to age, temperament, or peculiar idiosyncracy; or to the force or feebleness of the constitution. The unequal force of the genital organs themselves, in different individuals, gives the only satisfactory solution of this diversity.

The local disorders induced in the genital and urinary organs by these vices, occupy the remaining portion of this chapter. The most frequent of these are blenorrhagia, prostatitis, cystitis, sanguineous discharges, and orchitis: to the greater part of these we have already alluded.

Venereal Excesses. — The last and most voluminous chapter in the work is devoted to the consideration of venereal excesses. In contradistinction to abuse of the genital organs, of which he has treated in the preceding chapter, he defines venereal excess to be the indulgence of the venereal appetite beyond the real wants of the economy. We have in this chapter a recital of twenty cases, all bearing more or less directly on the subject. We shall pass over these, and proceed to notice some of the topics to which the reader's attention has been called in connection with them.

How are these excesses to be determined? It is difficult, says M. L., to judge *à priori* of the real wants of any individual in this respect; since the frequence and duration of erections, the ardour of venereal desires, and the phenomena observable in the general system, may lead us into error. But the difficulty will be obviated by judging of these wants solely from the effects immediately following their gratification.

"When coïtus is followed by a feeling of pleasure, of general well-being, of new vigour; when the head is rendered clearer and less obstructed, the body lighter and more agile; when there is an increased desire for exercise, for intellectual occupation; and especially, when the genital organs manifest an increase of vigour; it is then evident that an imperative want has been satisfied within the limits necessary to health. This favourable influence in all the organs is analogous to what follows the accomplishment of any function necessary to the economy.

"But on the contrary, when coïtus is succeeded by a feeling of sadness, of malaise, of fatigue, of satiety; by heaviness, by a disposition to somnolency and repose, by torpor of the intellect, an aversion to exercise, by a want of resolution; it may be affirmed either that the act has been too frequently repeated, or exercised under unfavourable circumstances. And in this we are not mistaken, even though erections of greater or less severity should manifest themselves soon afterwards: for, these may now be looked up to as the result of a commencing irritation, and not as the return of an actual want."

"I know, continues he, that these two orders of phenomena are not often so strongly marked, since the desire is rarely so imperious, or the excess so severe as here supposed. Nevertheless there are but few men arrived at the age of forty, who have not experienced some approach to these symptoms on the one side or the other. The cases intermediate between these two extremes constitute the ordinary state in which coïtus is rarely followed by any very remarkable phenomena."

Causes of Venereal Excesses.—Although disposed to attribute something to the influence of age and temperament in the production of these excesses, yet M. L. is not disposed to look to either of these as the most efficient. The principal cause he finds to be a want of harmony between the two systems of organs that concur to supply what he calls the *genital sense:* in other words, between the genital organs and the encephalon.

"The assemblage of organs necessary to reproduction are composed of two very distinct systems; the one designed for the accomplishment of the physical act, and the other for receiving the impressions and directing the actions relating to this function. There generally exists a sufficient degree of harmony between these two in respect to the epoch of their evolution and decline, as well as in their power and activity;"—but this harmony is sometimes interrupted. "I have already shown," he continues, "that the generative instinct is often manifested long before the age of puberty; and it may now be remarked, that the two systems have not always an equal developement, or an equal degree of energy. Let us then see what results from the undue preponderance of the one or the other of the two."

1st. *Of the Sexual Organs.*—The condition which disposes the least to venereal excess, according to our author, is that in which the sexual organs predominate over the encephalic. "I have seen," says he, "young men of extraordinary virile power, who were troubled by nothing more than the physical want. They experienced frequent and urgent erections. But their imagination remained cold. They gave way to masturbation or to sexual intercourse, in order to rid themselves of an inconvenience; and after the exitement had ceased they thought nothing further concerning it. They were insensible of any passion for one woman more than for the rest of her sex. They could bear with impunity the most frequent debauchery; but in this their imagination took very little part; intrigues and mistresses they thought but little of; and when forced by the urgency of their excitement, they entered without scruple into the vilest company. It was not from the consequences of their *excesses* that these men suffered: they consulted me only for the symptoms of syphilis or blenorrhagia." It is easy to conceive that conditions the reverse of these may lead most forcibly to excess.

2d. *Of the Encephalic Organs.* — In speaking of the influence of the brain, he does not insist on any particular portion of the encephalic mass, as being more especially than any other the seat of this influence; but he gives one instance to show that the occiput may be sympathetically affected in persons under high venereal excitement. "The preponderance of the generative instinct over the material organs of generation is generally announced," says he, "at an early age. Those who at five, or even ten years before the time of puberty, have sought intercourse with the opposite sex, almost invariably show through the rest of their life the most acute susceptibility to every thing capable of exciting or recalling erotic thoughts." Voluptuous ideas fill their imagination, trouble their meditations, and disturb their dreams. But their animal vigour does not correspond with their susceptibilities: the venereal act fatigues and enervates them; they are conscious of these effects, but they give way to their propensity as often as they are able. There are individuals of this class, who, when excited, have as little control upon themselves as lunatics; finding themselves exhausted by these excesses, they make good resolutions at the time; but break them on the earliest occasion.

"The preponderance of this instinct is often united with an imagination brilliant, active, and exquisitely sensitive, and a wayward and unsteady disposition. Men of this poetic temperament see all things in their most seducing aspect, embellish all their pleasures with imaginary charms; create beauties that are faultless, joys that are ineffable, and never find realities that are equal to their dreams. Burning with desire, yet conscious of their feebleness, they fall back upon themselves continually for pleasures in harmony with their creations, to enjoy the whole sex to their liking, or the woman they adore *without the need of an avowal.*"

But it is not the excitability of the physical organs alone that impels men to these excesses. There are others, and among these our author lays much stress upon man's self-esteem, as one of the most efficient. But we must leave them unexamined, to conclude with the following summary of the causes and their consequences. "Whether the erotic excitation operates through the cerebral system, or by the emotions of the mind; or whether it depends upon well elaborated spermatic fluid, the disposition of the sexual organs, or the state of the body, etc.; those emissions that are accompanied with phenomena the most energetic, are the only ones that are useful and beneficial. All things else being equal, seminal emissions, are the more injurious in proportion, as they are accompanied with erections the most feeble, and sensations the less exciting; in short, as they are the more passive." Hence our author argues that nocturnal pollutions, when involuntary, are indicative of a condition more serious than such as occur during the daytime. He attaches much importance to the proposition just quoted, because, says he, "it is in formal opposition to the prevailing opinion; because it is of continual application in the study of seminal emissions, whether voluntary or involuntary: and finally, because it conducts us to this satisfactory conclusion, that the interest of our pleasures is in accordance with the interest of our health, as well as with the general interests of humanity."

The General Effects of these Excesses on the human race.—In this section of his inquiry, M. Lallemand directs his attention more especially to the influence of polygamy and monogamy, in modifying the character, habits, opinions, and political institutions of different nations. The length to which we have already followed him, is our apology for not attempting an analysis of this important question; and we pass it the more willingly, as belonging rather to the moralist, the philanthropist, or the political economist, than to the physician.

The concluding section is devoted to the *special effects of venereal excesses.* These are for the most part such as we have already pointed out in our notice of the pathology and anatomical changes, observed in all the diseases of the genito-urinary apparatus, that are connected with involuntary seminal emissions, as given in the second chapter.

We here conclude our analysis of these important volumes; leaving, as we think, none of the author's peculiar views unnoticed. The work, as a whole, is replete with interest to society at large. The author has proved himself master of his subject: his main design was to throw light upon some important points in pathology hitherto but imperfectly understood; and the mode in which he has accomplished it, so far at least as we are able to judge, could not be materially improved.

J. W.

An Inquiry concerning the Diseases and Functions of the Brain, the Spinal Cord, and the Nerves. By AMARIAH BRIGHAM, M.D. New-York, 1840, 12mo. pp. 327.

FEW subjects within the domain of medicine have of late years attracted so much of the attention of anatomists, physiologists, and pathologists, as the structure, functions, and diseases of the nervous system. The works on these subjects are so voluminous or scattered through so many journals, as to be unattainable by a large proportion of medical practitioners. We were therefore inclined to welcome this convenient and purchaseable little volume, which on perusal is found to be a summary up to the present time of all matters mentioned in the title-page.

The book is divided into two parts. The first treats of the functions and structure of the brain; the second of diseases of the brain, and of other parts of the nervous system.

In attempting to illustrate the functions of the brain, the author notices the various methods that have been resorted to under the following heads. 1. Chemical analysis. 2. Dissection of the brain. 3. Experiments on living animals. 4. Comparative anatomy. 5. The fœtal condition and growth of the brain. 6. Pathological observation. 7. External examination of the cranium.

Under these various heads he passes in review more particularly the researches of Sir E. Home and M. Bauer, and the more recent microscopical observations of Professor Ehrenberg. The experiments on living animals by Haller, Lorry, Finn, Rolando, Magendie, Serres, Foderé, Flourens, Bouillaud, and others, and a long list of pathological observations from the writings of Foville, Esquirol, Andral, Abercrombie, Calmeil, Bouillaud, Lallemand, Morgagni, etc. From these various sources he presents us with most of the important deductions that physiology and pathology have recently given. Among these may be mentioned the microscopical discoveries of Ehrenberg.—"Professor E. claims to have discovered in the brain and nervous system two sets of tubes, both hollow, the one presenting at short intervals globular expansions resembling a string of beads: these he calls varicose or *articulated* tubes, and claims to have proved that they contain a peculiar matter which he calls *nervous fluid.* These are found chiefly in the brain, some in the spinal marrow and in the three soft nerves, or those of proper sensation, the olfactory, optic, and auditory; but in none of the other nerves, except in the middle of the great sympathetic.

Another set of tubes, which are straight and uniform, he calls cylindrical; they are larger than the articulated tubes, and contain a viscid white, but rather turbid matter, to which he has given the name of medulla. These cylindrical tubes are formed mostly in the nervous trunks and cords, but are not found in the nerves clearly devoted to sensation. He has however traced the cylindrical tubes of the motiferous nerves into the cortical substance, and found them continuations of the articulated tubes.

"The conclusion, drawn by M. Foville from his extensive pathological observations: 1st, that morbid alterations of the cineritious portion of the brain are directly connected with derangement of the intellect; 2d, that morbid alterations in the medullary portion are connected with disorder in the motive powers."

The author's conclusion as to the cerebellum is this: "All that we can properly conclude at the present time respecting the cerebellum and its functions is, that this organ is not concerned in the operation of the intellect, but some part of it appears to be with the motive powers, and also some portion of it with the sexual propensity. The close sympathy between the cerebellum and stomach is a fact deserving of attention."

The very short time and space left will not permit me to enter into an analysis of the three last sections of the first part of the work, devoted to the functions of the medulla oblongata, cerebral, and great sympathetic nerves. We pass therefore, to

Part 2d. Diseases of the brain, and other parts of the *nervous* system.

Under this division of the book, the author treats concisely of the various diseases of the nervous system; and gives us generally the most recent and best established views.

Statistics now show that not only what are strictly termed mental, but other diseases of the nervous system, seem to keep pace with the progress of civilization.

"From the tables of the deaths from different diseases, it appears, that while the population of New-York has only quadrupled in the last thirty years, the deaths from inflammatory affections of the head, or from inflammation and dropsy of the brain alone, have increased more than twelve-fold.

"It also appears, that the same diseases have of late greatly increased in England and France."

In speaking of epilepsy, the author quotes a pathological observation, which, though not sufficiently supported by facts, is worthy of notice. It is contained in an extract from an article in the "Archives generales de médicine," by M. M. Bouchet, and Cazauvieilh, on "epilepsy, in connection with mental alienation, in which they state, that the result of their researches show, that epilepsy is the result of chronic inflammation of the white substance of the brain; while mental alienation results from chronic inflammation of the cineritious or gray portion of the brain."

We beg leave to differ with the author in his views of hypochondriasis. He says, "it does not appear to me to be anything but a form of insanity, or monomania, combined with dyspepsia." Esquirol, the highest authority on these subjects, remarks, "hysteria, and hypochondriasis, degenerate and often pass into insanity, of which, in many cases, they are but the first stage. This is the reason why many ancient and modern authors have confounded these diseases with mental disorder." Lypemania (melancholy) has been so often taken for hypochondriasis, that I cannot omit this opportunity of giving in a few words the difference between the two diseases. Lypemania is most frequently hereditary; its subjects are born with a peculiar temperament, the melancholic, which predisposes to this disease. This disposition is strengthened by faults in the education, and by those causes which act directly on the brain, the sensibility, and intellect. The causes which produce it are commonly moral, while hypochondriasis is the effect, most generally of physical causes, which modify the action of the stomach, and disturb its functions. In lypemania, the ideas contrary to reason are fixed, being cherished by some depressing passion, or vicious train of thought. In hypochondriasis, on the contrary, there is no delirium; but the patient exaggerates his sufferings, by which he is constantly absorbed, and is terrified by dangers which he supposes threaten his life. He has also dyspepsia."

Hypochondriasis, it seems to us, should always be distinguished from monomania, so long as it wants its characteristic symptoms. Thus a patient with dyspepsia, or disease of the liver, who exaggerates his sufferings without entertaining a baseless delusion, is a hypochondriac, but not a madman. And who would think of classing a consumptive patient, who, in his own case, disbelieves the existence of disease, with the insane? It is true, that hypochondriasis often terminates in monomania, and it is exceedingly difficult to know where the one ends and the other begins; yet, unless we draw the line between them, how many of the most distinguished and useful members of society, will be ranked among madmen.

In connection with diseases of the nervous system, the author makes some judicious observations on dyspepsia, which he refers in a majority of cases, especially among students, to disease of the brain. "The reason why civilized man is most subject to indigestion, is to me obvious. Every one knows that excitement and anxiety of mind, impairs the appetite, and hinders digestion. This mental agitation consumes, or hinders the transmission of the nervous fluid, or nervous power, from the brain to the stomach, that is necessary to create an appetite, and to complete digestion. The same cause prevents the proper secretion of bile, and renders the bowels torpid."

There is so much truth and force in the above quotation, that we would earnestly call the attention of all medical practitioners to this part of Dr. Brigham's book.

The chapters on delirium tremens, insanity, &c. contain much that is highly interesting. In conclusion, we would recommend this excellent compend, a work of much labour and research, and enriched by many original cases, to the notice of the profession, and the attentive perusal of the student.

J. M.

The Maryland Medical and Surgical Journal; and Official Organ of the Medical Department of the Army and Navy of the United States. Published under the auspices of the Medical and Chirurgical Society of Maryland. Baltimore, printed and published by John Murphy, 146 Market st. No. 1, January, 1840; pp. 136.

We have received the first number of this new journal, published under the auspices of our professional brethren in Maryland. The work is a quarterly, but much smaller in size than the rest of this class of journals now in circulation in this country; still it is quite large enough to contain a fund of useful and interesting matter. We beg leave to express our obligation to the editors for the copy we have received, and to wish them the best success, in their new undertaking. We should improve the opportunity to extract from its pages, had not other journals anticipated us, in selecting such portions as are most worthy of particular notice.

J. A. S.

SCIENTIFIC INTELLIGENCE.

Proceedings of the New-York Medical and Surgical Society. Regular Meeting, Nov. 16, 1839. *Present* 22 *members.*

Dr. Delmold exhibited to the Society a cast of *Club-foot*, which had been taken prior to any operation, and at the same time he presented the patient two years after he had been operated on. The case was completely successful; for a full account of it, vide American Journal of Medical Sciences, May, 1838.

Dr. H. Green mentioned the case of a lady in whom abortion had been three times brought on within 18 months, by the introduction of a long probe which had been furnished her by a country physician. In the course of some remarks on this subject, he alluded to the frequent occurrence of these cases, and observed that he had recently been called upon by a lady in Brooklyn to perform this operation, but which he promptly declined doing.

Dr. Dixon stated that he had recently successfully performed the operation of Tracheotomy, in a child 18 months old, for the removal of a foreign body. Also a case in which an infusion of Juniperus Sabina had brought on abortion.

Phlegmonous tumour in the iliac fossa. — *Dr. Ticknor* read the following obscure case which came under his care in Sept. 1839.

Mrs. E. W. aged 53, had Cholera in '32; since then has had more or less complaint of the bowels — as irregularity of their action, attended with frequent excruciating pains. These paroxysms of pain would continue for a few hours, and then subside, leaving her in comfortable health. On Sept. 10th, I was sent for to see her in the night, and found her vomiting a greenish bile, and complaining of severe and intolerable pain in the region of the caput coli, the seat of which she said she could cover with a dollar. There was but little tenderness of this region on pressure. I prescribed calomel and opium, with injections sufficient to evacuate the bowels, and leeches to the abdomen. These gave but temporary and slight relief; I then blistered the part which was tender on pressure, with considerable relief of the pain; but as soon as the blistered surface healed, the pain reappeared in its original location. I then made a second blister, and when it was about to heal, I applied a plaster of Mezereon ointment; this caused a good deal of irritation in the nervous system, and from this moment the internal pain seemed to be transferred to the skin, directly where the last plaster was applied. After the blister healed, the skin yet remained painful and exceedingly tender to the touch; and from this time till the day of her death, the slightest touch of this part with the finger caused the greatest pain. This sensibility of the skin extended downwards into the groin, to the top of the thigh, and around the whole hip. After laying the fingers gently upon the sensitive skin, she could then bear firm pressure without the least pain, except over the region where pain was first felt; and even there I frequently made firm pressure without causing the slightest uneasiness.

Pains, which seemed to be more deeply seated than the skin, extended down the leg to the foot, but after a time were confined to the neighbourhood of the hip joint. After the first two weeks, the pain was so great on extending the limb, that it assumed the flexed position, and was never afterwards straightened.

Occasionally, there would be fulness of the affected side, which would disappear in a short time, leaving the whole abdomen lank.

A proposed consultation to the friends was not listened to, till about the sixth week of the patient's illness, when Dr. J. K. Rodgers saw her at my request.

Of one thing he was certain — and that was, that there was no disease of the hip joint, and the painfulness of the skin, and absence of pain or tenderness on pressure, left the case in great obscurity.

About three days before death, there was a tumefaction, containing air, about two or three inches in diameter, just below the crest of the ilium, on the posterior part of the hip. There was some fever from the commencement till toward the termination of the disease, which took place on the 10th of Nov.

Post-mortem Examination by Dr. Rodgers and myself, about 24 hours after death.

Great emaciation — Fulness of the anterior part of the abdomen, between the umbilicus and spine of the ilium and pubis, occupying the whole region made by a line drawn from the umbilicus outwards with the linea alba. Integuments livid four inches in length, in the direction of Poupart's ligament, and vesicated one quarter of the distance between the ilium and spine of the pubis. On turning aside the integuments, we came directly upon a fecal abscess, corresponding to the head of the colon. The liver was rather pale, gall-bladder distended; urinary bladder full; firm adhesion between the caput coli and peritoneum; all the bowels natural except the part to be described.

There was an ulcer of the posterior parietes of the head of the colon, of the size of a dollar, and a perforation of the intestine about as large as a sixpence. The contents of the bowel had escaped by this perforation, and followed the course of the psoas magnus behind Poupart's ligament, thus forming the prominence on the anterior part of the abdomen. There was no evidence of recent inflammation, and the probability is that the perforation occurred on the night of the 10th of Sept. when the patient was first taken ill, and that the ulcer was of long standing.

Dr. Swett exhibited to the society a 'synoptical table of thoracic percussion and auscultation, prepared by C. L. Mitchell, M. D., of this city.

Dr. Buel related an obstinate case of syphilis, which had been treated with mercury, with alternate benefit and injury; and which was finally cured by that remedy.

Regular meeting, Nov. 30th. 19 members present.

Dr. S. P. White reported a case of tumour of the spermatic cord, which had been mistaken at one time, by the medical attendant, for hernia; and at another, for a *third* testicle! As this latter diagnosis, has been gravely given by a respectable practitioner, Dr. W. deemed it proper to state it to the society, and to ask the members if any of them had ever seen such a freak of nature.

Dr. C. Wright reported a case of *scarlatina* of great severity, which was successfully treated by mild measures. Although there was considerable cerebral disturbance, but two leeches were applied to the temple, and the only internal remedies used, were, a dose of ol. ricini, and sp. mindereri; pediluvia were occasionally employed.

Dr. Green mentioned two cases of *chronic laryngitis* at present under treatment, which he thinks differ from the disease as described in books, particularly in their mode of attack. He thinks that the inflammation is at first, not of the larynx exclusively; but that it also affects the mucous membrane of the fauces, and then extends downwards. This opinion he formed from an observation of 10 or 12 cases.

Dr. Joslin remarked, that he had seen several cases of it in persons who had abstained from animal food, after having been long accustomed to it.

Dr. Swett observed, that the disease frequently followed the excessive use of the voice in persons labouring under common catarrh; in illustration of which, he related the case of an actor, in whom laryngitis was thus brought on.

A paper on the "diagnosis of diseases of the heart," was read by Dr. Swett.

An original paper on the "stage of collapse," was received from Dr. Cook of Cambridge, N. Y., through Dr. Joslin.

Regular meeting, Dec. 14*th*, 1839. 23 members present.

The paper of Dr. Cook on the "stage of collapse," was read by the secretary.

Dr. Detmold exhibited several cases of *club-foot*, one taken prior to an operation, and a second one of the same foot, taken four months afterwards; a remarkable improvement was manifest.

Dr. Adams mentioned a case of *delirium tremens*, complicated with epilepsy; in the absence of the attending physician, a homœopathic one was called in, who applied hot cloths to the head, and friction to the feet. The case speedily proved fatal.

Dr. Buck presented a case of *tumour*, seated over the portion of the right parietal and frontal bones, to the observation and examination of the members. The case is one of peculiar interest; for a full report of which, see the present number of the Journal.

Dr. James H. Dickson read a valuable paper on *urethrotomy*, illustrated by various classes of cases, in which he deemed that operation called for.

Regular meeting, Dec. 28*th*, 1839. 14 members present.

Dr. Detmold remarked, that he operated several months since on a lad for flexion of the knee, produced by suppuration. Since then, he has been walking with instruments; but when these are removed, the leg flies back. He appears to have no control over the muscles.

Hypertrophy and Dilatation of the right side of the Heart. Dr. Shook read the following *post-mortem* account of a case of *cardiac* disease.

Dec. 28*th*. — I was requested a few days since to make a post-mortem examination of Mrs. C. aged about 28 years.

Mrs. C. had been ill about three years. Pain in the chest, bloody expectoration, and one or two attacks of hœmoptysis, induced her to remove to a southern climate, by the advice of her attending physician, who pronounced it phthisis. While there, her health was quite restored by taking gentle exercise in the open air, and riding in an open carriage more or less each day.

She returned to New-York, where she was seized again with all those unpleasant symptoms which induced her to go South, increased no doubt by pregnancy. She miscarried at the 6th month, and died two weeks after.

Post-mortem 10 hours after death: — The abdomen was first examined. The peritoneal sac contained about a quart of transparent serum; bowels and other abdominal organs, healthy. The *right ventricle* of the heart was much hypertrophied, and somewhat dilated; the pulmonary orifice was *free*. Left side of heart natural.

A paper on *polypus uteri*, was read by Dr. Ed. Dixon, accompanied by a new instrument constructed by himself, for its removal.

Regular meeting, January 11, 1840. 12 members present.

Dr. Macdonald mentioned a case of intermittent fever, which occurred in a patient æt. 20 years, who came from Tobasco, and was received into the hospital. He had had a quotidian for one month, which was followed by dropsy; had not been under treatment. He was immediately purged, and an anodyne given in the hot stage, which it shortened. Quinine was then given, under which he is improving. The paroxysms were checked, and the effusion removed, except that of the lower extremities.

He also related a case of hemiplegia, which came on during the use of mercury for a chancre. There was pain in the head or the left side; the disease being in the right side. He is recovering.

Dr. McCready stated that he had found the following ointment useful in relieving the itching of lichen: ℞ oxide of bismuth ʒij. ung. sulph. ℥j.; axungiæ ℥ss.

Removal of the patella. Dr. Buck read the following case:

Through the kindness of Dr. Blivin of the Eastern Dispensary, I am permitted to lay before the Society the following very remarkable case which I have seen in consultation with him on several occasions.

Joseph V., aged 65 years, of sluggish, phlegmatic temperament, resides in Suffolk-street. He sometimes indulges in strong drink, to the extent of intoxication, is a tailor by trade.

On the morning of the 28th October, 1838, while in a state of partial intoxication, he fell asleep as he sat with his left knee exposed near a hot stove. After awhile, finding the joint stiff and being unable to bend it, he supposed that he had an attack of cramp, to which he was subject, and proceeded, without examining the part, to apply to it some of his favourite remedy pepper sauce, (a strong infusion of pepper-pods in vinegar;) he accordingly passed down his hand containing a portion of it under his pantaloons, and rubbed it over the joint; this immediately produced excruciating pain and smarting. Not doubting the efficacy of this remedy, he repeated the application in larger quantity and with aggravated effects. His wife now suggested the possibility of his having burnt himself, and on taking off his pantaloons he found that a spot of five or six inches in diameter, having the patella for its centre, was burnt and denuded of its cuticle, and that the abraded surface presented a very red and inflamed appearance. The usual domestic applications for burns were now resorted to, and on the fourth day, becoming alarmed at the appearance of the part, he sent for a physician, who recognised the characters of incipient sloughing, which involved all the anterior part of the joint, and corresponding in extent with the burn itself. In the progress of the sloughing process the patella was denuded, and in the month of February following, it was so far separated from its connections that it could be raised by its inferior edge almost to a perpendicular position; at the same time the cavity of the joint was not opened, and the margin of the ulcer was beginning to cicatrize. It was evident that nature was providing for the casting off of the bone without exposing the cavity of the synovial sac which lines its posterior surface. Impatient of the delay of her slow and sure method, the patient became importunate with his then attending physician for its removal by the knife, and at length he yielded to his solicitations, and attempted to excise it; but after having commenced the operation, he desisted from it, proposing to terminate it at his subsequent visit! In the meantime, however, his son called to see him, and learning what had been done, anticipated the doctor by removing the bone with his penknife; in doing so he took the precaution to keep as close as possible to the bone. The hemorrhage was very moderate, and, according to the patient's account, there was no flow of synovial fluid. The rapidity with which the ulcer healed from that moment, renders it also probable that the joint was not opened.

On the 10th of April, he was so far recovered that he was conveyed in a carriage to the polls to vote, and from that time began to walk with a cane. He continued to gain more use of his limbs, and was able to walk a considerable distance; it was, however, necessary for him to use the precaution of keeping the leg in a state of forced extension, as the least degree of flexion would stretch the parts in front of the joint and give them pain. A superficial ulcer, of the size of a dollar, remained open over the anterior and outer part of the joint.

This was his condition on the 8th of January last, (1840,) when he had the misfortune to fall on the ice and tear open the anterior part of the joint, a contusion below the tuberosity of the tibia pointing out the part which struck the pavement; at the same time the knee was so forcibly flexed as to sunder the newly cicatrized soft parts, leaving a transverse wound involving the superficial ulcer above alluded to, and extending from one lateral ligament to the other, a length of five or six inches across the middle of the joint. The crucial and lateral ligaments were not apparently injured.

This was his condition when Dr. Blivin first saw him. A single suture was introduced about an inch from each extremity of the wound, and adhesive straps were applied for the purpose of keeping the edges in contact, and promoting, as far as possible, union by the first intention. In addition to these, a suitable bandage was employed, and the limb was supported in an extended position.

On the *second day* after the accident, there was a moderate degree of redness and swelling about the knee, but little pain, and scarcely any constitutional disturbance; pulse calm and not accelerated. Treatment strictly antiphlogistic; diet, laxatives, poultice to the knee.

Third day. The limb was placed in a narrow box extending from the upper part of the thigh to the foot, and provided with a foot-piece and sides opening and shutting with hinges. By means of this apparatus the limb was fixed in the extended position, and elevated so as to incline from the heel towards the trunk. The trunk was also elevated, so as to flex it on the thigh, and relax the muscles on its anterior part. In this way all tension was taken off from the wound, and the contact of its edges maintained.

Fourth day. Everything appeared favourable; the sutures were removed; the edges of the wound were in contact, and adhesion seemed to be going on.

Ninth day. Swelling subsided; wound healthy, and beginning to cicatrize; pressure around the inner angle of the wound forced out a small quantity of reddish yellow fluid. Poultice changed for simple cerate, and lotion of sulph. copper.

16th day. Cicatrization progressing.

23d day. Ulcer has diminished rapidly in size, and has become a superficial sore; no discharge from the inner angle.

Five weeks after the injury, there remains a superficial ulcer of less dimensions than the one which existed prior to the injury.

It will be important to preserve the limb in the extended position by means of a straight splint, in order to guard against the recurrence of the same accident.

Regular Meeting, January 25th, 1840. 22 Members present.—*Dr. Beales* related a case of a gentleman who had, at times, suffered great pain in his head, &c. From his attending physician he learnt that the patient had been accustomed to a hæmorrhoidal flux, and that this had now ceased. At his suggestion, leeches were applied; the flow of blood was followed by relief. Upon a subsequent attack of the same nature, leeches were again employed, and with so much benefit that his attending physician considered him well. Some little time, however, after this, he was seized with a severe affection of his chest, of a suffocative character, to relieve which, ammonia and camphor were prescribed. The case assuming an alarming aspect, Dr. Francis was called in, and advised purging. The case proved fatal. A *post-mortem* examination could not be obtained.

Adherent and Strangulated Femoral Hernia.—Operation.—Death.—*Dr. Watson* exhibited to the Society a portion of intestine that had been strangulated, and gave the following history of the case:

Mrs. C., a Scotch woman, of spare habit, rather small, aged 66, and the mother of six grown children, had had a hernial tumour in her left groin for the last 25 years, during the whole of which time the swelling appears to have given her very little uneasiness; she had never resorted to any active measures for relief from it. About the 14th of January, she slipped down, and immediately after the accident she observed a sudden increase of her old swelling.

On the morning of January 19th, 1840, she complained of pain in her bowels; she had had no evacuation since the time of the accident, and she began to vomit. In the afternoon her family physician was called, and taking the case for one of strangulated hernia, requested a consultation. Surgical measures, however, were not listened to at the time. And the gentlemen who had charge of the case, in consultation with another judicious and well informed practitioner, resorted to purgatives, enemata, depletion, relaxing medicines, in a word, to all the measures usually employed under similar circumstances, short of an operation, but without success.

Jan. 22d. The patient for the last two days has had stercoraceous vomiting; and nothing has as yet passed her bowels, with the exception of some small portions of fœcal matter, which were brought away by enemata. Her skin and pulse, and the state of her tongue, indicate no unnatural excitement of system. She has had no symptoms of hiccough; her bowels are somewhat tympanitic, but not tender to pressure. The tumour at the groin is of an ovoid shape, lying in the course of Poupart's ligament. Surgical aid was again suggested, and the patient and her friends finding an operation inevitable, gave their consent to it. It was performed by Dr. Stevens at noon.

The great mass of the protusion was found to consist of omentum, which was of a bright red colour, not congested, but adhering by firm and old attachments to the upper edge of the crural ring. Beneath this mass, lay a small knuckle of intestine, apparently a portion of the ilium, which was of a dark purplish hue. The stricture was divided by a slight incision upwards and inwards against Poupart's ligament, the intestine was then readily returned into the abdominal cavity, but the omentum could not be reduced or separated from its attachments; the wound was therefore closed by simply drawing the integuments over this adhering mass. The patient was allowed some simple nourishment.

For several hours after the operation, she remained composed, her stomach quiet; her pulse and skin indicating no constitutional disturbance. An enema however, had failed to relieve her bowels; they still continued tympanitic. At 7 o'clock, P. M., she was directed sulph. magnes. ʒii. every two hours, to be continued during the night, until her bowels should be relieved.

January 23d, at 10 o'clock, A. M. No relief of constipation; patient complaining of thirst, and of a burning sensation in the stomach. She has vomited three times since last visit, discharging nothing but her food and drinks, which have been either water or a small quantity of porter diluted with water. Her pulse is 76 and regular; her skin perhaps somewhat cooler than before the operation. She was directed to take an ounce of castor oil, and to have fomentations to the bowels. Fearing that the intestine might have again fallen into the wound, the stitches and dressings were removed and the parts examined. No new protrusion had taken place; the stricture had been thoroughly divided; the parts appeared to be glued together as if by a slight effusion of plastic lymph, and a somewhat offensive and peculiar odour issued from the parts exposed. The dressings were reapplied.

In the afternoon, the vomiting had returned on ceor twice, but the oil had not been rejected, and the bowels were still confined. A rectum bougie was introduced to the distance of ten or twelve inches; no air escaped through it externally. An attempt was now made to distend the lower part of the intestines with atmospheric air, which was thrown in by means of the patent enema apparatus. The air, however, came away immediately without affording the least relief. The patient took 20 grains of calomel. At 7 o'clock P. M., pulse 80; skin warm; no hiccough; patient restless, desirous at times to vomit, but unable to eject anything; no evacuation from the bowels; no pain from pressure on the abdomen, but a sense of uneasiness in the epigastrium. A quarter of a grain of tartar-emetic, to enable her to unload her stomach, was now directed, and the fomentations were continued. About eight o'clock she began to sink, and about 11 o'clock, P. M., she expired.

Autopsy, about 15 hours after death.—The abdomen was greatly distended with gas, and thin frothy mucus was issuing from the mouth. The parietes of the abdomen were unusually thin. On puncturing the intestines the air escaped without giving rise to any offensive smell. The stomach and transverse portion of the colon lay much below their usual seat, and the omentum proceeding from them, had passed through the crural ring, where it had contracted the adhesions and formed the protrusion which has already been described. The peritoneum appeared to be free from disease except at this protruding portion. The knuckle of intestine that had been strangulated lay free in the abdomen about an inch above the inner edge of the crural ring—it was a portion of the ileum, and was doubled upon itself, as when first observed in the hernial sac during the operation. It was of a deep purplish-brown colour, and at one point its external surface appeared to be slightly ulcerated. It had not mortified, but felt thick, firm, and inelastic; the whole circumference of the intestine did not appear to be involved, a small strip at the mesenteric side, still appearing to be healthy.

The parietes of this diseased part of the intestine were nearly twice their natural thickness. On its mucous surface it was lined by a thin exudation of lymph, which formed a sort of false membrane; and parallel red strips, as if caused by abrasion of the mucous coat, and the extravasation of blood on the free and thickened edges of the valvulæ conniventes, were observed in all parts of the diseased tissue. This diseased appearance on the mucous surface terminated rather abruptly at the former seat of stricture; but some redness extended both above and below this for a few inches. The intestines contained no fœcal matter; but a quantity of thin bilious fluid was discovered above the seat of stricture. The meteorism was observed both above and below the stricture. The other viscera were not allowed to be examined.

The absence of hiccough in this case led to the belief that the intestine had not mortified; and post-mortem inspection verified this opinion. No extensive inflammation of the peritoneum was discoverable after death; hence, perhaps, the state of the pulse, which continued natural almost up to the last hours of life. The case, as a whole, is one of much interest; the patient appears to have died neither from inflammation nor mortification; and from the empty condition of the intestines, we can scarcely say that death resulted simply from obstruction. The pressure of the distended bowels upon the diaphragm, and of this in turn upon the thoracic viscera, added to the general exhaustion of the nervous system, are the only conditions left us by which we can account for the fatal termination.

Granular Degeneration of the Kidneys, with Cerebral Symptoms.—*Dr. Swett* read the following history of the case as furnished him by Dr. James B. Kissam, the attending physician, together with the post-mortem appearances as witnessed by himself.

On the 2d of October, 1839, I was requested to prescribe for Mrs. M., ætat 30 years; the previous history of whose case was furnished me by her father, as follows: About nine years ago, she was suddenly threatened with a convulsion, accompanied by an inability to articulate, a partial loss of memory, and paralysis of the extremities. After this, she gradually improved, but never completely recovered from the shock. In the course of a year, she again almost entirely lost the use of her hands and arms as far as the elbows, and remained so for a great length of time. Her physician attributed it to irregular menstruation, and treated it accordingly. She also had three or four attacks similar to the first, in the course of the two or three following years; and the paralysis returned once or twice previous to her marriage, but did not continue so long as at the first attack.

Three years ago she was married, since when her health has steadily declined. A year and a half since, she was seized with violent inflammatory pain in the head, attended by delirium and derangement of vision. After leeching, &c., the delirium passed off, but her eyesight has continued somewhat affected. About two months after this attack she was delivered of a still-born child, at eight months gestation; having had three early miscarriages previously, and one subsequently to this event; at each of which the loss of blood was considerable. All this suffering has produced great debility and emaciation, with excessive weakness of the nervous system, so much so that the slightest occurrence completely prostrates her.

For the last three months, she has been absent in the country, and in the course of that time has had three very severe attacks of the same kind; in one of which she was a good deal convulsed, and entirely lost her consciousness. Her eyesight continues very poor, and at times, for a short period, she is nearly blind. She is almost constantly affected with dizziness, and suffers a good deal from violent pain in the head near the temples.

I found the patient of a leuco-phlegmatic habit, with some puffiness of the face, and œdema of the inferior extremities; the body and superior extremities emaciated. She was suffering from extreme irritability and susceptibility of the nervous system, with restless nights and unpleasant dreams; frequent palpitations of the heart, upon the auscultation of which, the sound termed by Laennec "cri du cuir," was distinctly heard, giving evidence of a deposition of lymph upon the surfaces of that organ and its sac. The pulse exceeded 100, but was feeble, and regular; the surface of the body quite cool; tongue clean; bowels generally regular, though *occasionally loose;* the alvine discharges natural in colour. She had not menstruated since the end of July; (nor did the discharge reappear.)

For a year past, she had had frequent attacks of vomiting of a frothy mucus, occurring at all times, preceded by a sudden violent pain in the head; this symptom occurred but seldom after my attendance upon her commenced. No difficulty was complained of at any time in deglutition, nor any pain on taking food. The appetite was rather voracious. No tenderness of the abdomen existed on pressure; but a slight pain on examination of the lumbar regions. She had for several years *been accustomed to urinate very frequently through the night,* though perhaps the daily quantity was about natural. She also complained, as before stated, of pain in the head, giddiness, impaired memory, and imperfect vision; the pupils of the eyes being apparently *permanently* contracted.

The symptoms in this case pointing so strongly to the head as the seat of the disease, I at first adopted the opinion entertained by her previous medical attendant, that she was labouring under organic disease of the brain; and as little else than palliative measures could be recommended, no others were instituted. Having tested the urine by heat, and finding that it became decidedly flaky, I concluded that the extensive œdema depended upon granular disease of the kidney; but it was not until my attention was directed to the article on cerebro-renal disease by Dr. Addison, in 6th No. of Guy's Hospital Reports, that I recognised this to be the primary seat of her disorder. Having compared this case with his description of the fifth variety, I had no longer any doubt as to the secondary nature of the cerebral symptoms; and the opinion thus formed, was most amply sustained by the post-mortem appearances.

In the latter part of October, she was again seized with a convulsion, which passed off with a disposition to coma. In the middle of November, she had a severe attack of bronchitis; towards the end of it another convulsion occurred, and abdominal effusion became very evident, with a steady increase of the anasarca, and a pulse of 120 to 130. In the course of December, she had several convulsions; and at the latter part, she had attacks of screaming without any expression of pain, or any apparent delirium; and on one or two occasions it continued during the whole night.

Her skin throughout the disease was cool, and the tongue but seldom furred; she earnestly begged for animal food, and broths, which were at times allowed her, without appearing to be detrimental. For the last month, circumstances made it impossible to ascertain the daily secretion from the kidneys, but I am inclined to think it was materially diminished. Within the last fortnight of her existence she complained of great pain in the whole course of the colon, (which was generally distended with air,) and had several tar-like discharges daily. She sunk in a comatose state, under the exhaustion consequent upon the severity and complication of her maladies, early in January.

Post-mortem examination, eight hours after death.

Body much emaciated; cellular tissue of the lower extremities and abdominal parietes much infiltrated with serum.

On opening the cavity of the cranium a moderate quantity of serum flowed from the cavity of the arachnoid, but the ventricles were found much distended with it. No other morbid appearance was noticed either in the brain or its membranes which were all very carefully examined.

The cavities of the pleura contained also a considerable quantity of serum; the structure of the lungs was healthy. The serous membrane of the pericardium was covered with an exudation of coagulated lymph, evidently of ancient date; it presented a rough surface formed by numerous papillæ, an appearance which has been justly compared to that of the tongue of a cat. The heart itself was considerably enlarged, which enlargement was found on examination to consist of an hypertrophy of the left ventricle. The cavities of the heart were nearly empty. The lining membrane and the valves were healthy.

On opening the cavity of the abdomen the peritoneal sac was found to contain a large quantity of serum. The mucous membrane of the stomach presented a marked, uniform, cherry-red colour, but without apparent thickening or softening of this coat. On examining the cardiac orifice of this organ the lower portion of the œsophagus which was removed and laid open with it, presented a well-marked slough of its mucous membrane, an inch and a half long, and one inch in breadth, of a grayish colour and irregular shredy appearance, still, however, adhering to the subjacent tissue with considerable firmness, and surrounded with a narrow but bright red circle of inflammation; it stopped abruptly at the termination of the œsophagus. On examining this organ higher up in its course several smaller sloughs were noticed of the same general character, some of which had separated entirely so as to leave ulcers. With the exception of the bright red ring surrounding these sloughs, the mucous membrane of the tube appeared perfectly healthy. The appearance was precisely what might be supposed to be produced by applying portions of caustic potass to the parts. The duodenum was found very much diseased; all the coats of the organ were much thickened; the mucous membrane was also cherry-red and softened; the mucous follicles were very evident, giving the surface a granulated appearance. Two large ulcers were noticed, evidently of old standing, with thickened, indurated edges, one of which had penetrated through all the coats of the intestine, except the peritoneal covering which covered the organ at that part. The jejunum and ileum presented the same appearances as the stomach, the mucous membrane being of a cherry-red, but without apparent thickening or softening. On examining, however, the large intestines, evidences of disease again became apparent. These cavities contained a large quantity of semi-fluid matter of a reddish brown colour, which appeared to be composed of fœculent matter mixed with mucous and with blood. The mucous membrane of the cœcum and ascending portion of the colon was covered with sloughs, oblong in shape, some of them even linear, presenting the same general appearance with those noticed in the œsophagus, but of a greenish tinge and less flocculent. Some of them had separated, leaving the submucous cellular tissue also in a state of gangrene in some instances, in others simply thickened. The mucous membrane around the sloughs, and in other portions of the canal, was more red than natural, but appeared otherwise healthy.

The kidneys, when removed, appeared considerably smaller than natural, but when viewed externally they presented no other apparent change from their normal condition. On stripping off, however, heir external coat, the evidences of disease were quite apparent. The surface presented a mottled, granulated appearance, caused by yellowish spots on a reddish ground, and on passing the finger over the surface it was evidently rough. On cutting open the organ, the same yellow granulations were found to have invaded everywhere the cortical substance, and to have encroached considerably upon the tubuli uriniferi, so that their fan-like expansions were deformed and irregular in shape; the pelves of the organ appeared natural. The bladder was very much contracted, containing perhaps a table-spoonful of urine.

The liver was about the natural size and consistence, and was considerably congested with blood.

Dr. McCready related the case of a female who had had frequent attacks of hemorrhage from the vagina, attended by severe pain. On examination, per vaginam, he found the lips of the uterus prominent, and its mouth patulous. In the course of this morning she passed a fibrinous concretion which from its moulded form, he supposed to be the envelope of a polypus, or other uterine tumour.

Dr. Vandervoort mentioned one among several cases of *poisoning by arsenic* which arose from the following cause. Whilst a gang of stevedores were engaged, in May last, in hoisting some casks of powdered arsenic from the hold of the packet ship Quebec, several of them slipped from the slings and broke. The arsenic being scattered over the hold of the vessel, these men were employed to sweep it up. At about the same instant several of them were seized with vertigo and fell senseless. Soon afterwards all were attacked with violent vomiting, which was speedily succeeded by the more severe symptoms of poisoning by that metal. Two or three of the cases (in all nine) proved fatal in the course of a few days. Several of them returned to work at the expiration of a week. One of them who came to the Dispensary for relief, had more or less vomiting for about a week; pain and inflammation of the fauces; considerable thirst; tenderness at the pit of the stomach; diarrhœa and a cold clammy sweat all over his body. Under the use of mucilaginous drinks, with carbonate of magnesia and extensive blistering of the abdomen, this man recovered at the end of a fortnight.

Regular Meeting, Febuary 8, 1840. 16 members present.

Dr. Dickson related a case of *Hydrops Articuli*, occurring in both knees, which had been much benefited by the internal and external use of the hydriodate of potass. In one knee the effusion, he observed, was wholly absorbed.

Dr. Watson exhibited to the Society, a small tumour which had been removed from beneath the pericranium, which invests the temporal bone of the right side. The cause of the tumour gave rise to some difference of opinion among the medical gentlemen who examined it; it was attributed by one of them to venereal taint in the system. It was preceded by severe pain, which was supposed to be owing to disease of the liver. After the tumour appeared the patient had convulsions; it gradually increased in size until the time of its removal. The pericranium was considerably thickened and the bone carious.

Dr. Buel related a case of *Stricture of the Urethra*, which was attended by considerable irritation; to remove which he applied leeches; the bites were followed by bad symptoms. An abscess formed which was opened; four out of nine of the bites suppurated.

Dr. Delmold made some interesting remarks on *Club-feet*, exhibited various casts of the same and the different instruments employed by himself and others, to remedy this deformity and contractions elsewhere seated.

Regular Meeting, February 22, 1840. 20 *members present.*

Dr. Buck read a part of his *Quarterly Essay* on "Hernia Cerebri." He related at length, a case in a boy 12 years of age, successfully treated by him during his recent turn of attendance at the N. Y. Hospital, and gave an elaborate analysis of 33 cases, gathered from Journals and other sources.

After the reading of the above paper was finished, *Dr. Buel* reported a case of *Neuralgia* of the femoral nerve, which he had treated successfully with Carbon. Ferri. He gave one drachm three times a day, and Dover's powders for a few nights; a cure was effected in one week. No cause could be assigned for the disease.

Dr. Dixon exhibited two specimens of Uterine Polypi, which had been recently removed by means of the instrument constructed by himself.

Cases of Submersion, by Dr. Watson. — The two following cases of submersion were admitted into the N. Y. Hospital within a few hours of each other. The rational symptoms of the fatal case did not, at the time of admission, appear to be so alarming as those of the case which terminated favourably.

Case first. — John Bradley, an Irish labourer, aged 28, fell into the river on the third of March. The patient at the time was intoxicated; and it was not ascertained from those who had rescued him and brought him to the Hospital, how long he had remained in the water. When received, he was perfectly insensible; his skin was cold, his face was purplish and turgid with blood, his pupils were dilated and immovable, his respiration was stertorous, and his pulse slow, feeble, and intermitting; his lungs, however, did not appear to be much congested, the respiratory murmur had given place to a deep, sonorous, bronchial sound. Before I saw him, the house surgeon, Dr. Halsted, had directed him to be placed in a warm bath; sinapisms were subsequently applied to his feet and over his stomach. A stimulating enema was administered; and the patient, as sensibility returned, was directed warm diaphoretic drinks, and a few ounces of blood were taken from his temples by means of cupping. He revived in a few hours, and was discharged cured on the day after his admission.

Case second. — John Nowland of Ireland, a coachman, aged 28, was admitted into the Hospital early on the morning of March fourth, having about five hours previous, fallen with his horses and carriage into the river. He had been rescued by a watchman, who took him to the watch-house, where he lay in his wet clothes till daylight. When admitted his symptoms were much the same as in the previous case; his pupils, however, were not so much dilated as in the case of Bradley, and they were somewhat sensible to the impression of light. His respiration was short and obstructed by mucus; he was able to speak, but his voice was so broken and indistinct as scarcely to be intelligible. Before I saw him he had been freely rubbed with tinct. capsici. Sinapisms had been applied and a stimulating enema as in the other case, and cups were also applied to his temples and over his chest.

In the course of the afternoon reaction ensued, and the patient gave an account of the accident; but in the course of the night his respiration again became embarrassed, and I found him on the following morning in a state of total insensibility. His skin was hot, his face was covered with perspiration, but pale and purplish; his pupils were contracted; his pulse scarely perceptible, apparently beating about 120 in a minute; and his respiration was short and obstructed with mucus, which was rising abundantly into his mouth. His chest, especially at the lowest part, gave out a crepitating sound, which, however, was rendered indistinct by the abundance of mucus and the shortness of the respiration. The sinapisms had been continued during the night without making any sensible impression on the skin; they were now removed, and the feet and anterior and lower parts of his legs touched with nitric acid. His head was shaved and cloths soaked in cold water were applied to it. The patient continued to sink, and died about 33 hours after the accident.

He was examined about 21 hours after death. In the encephalon the longitudinal sinus was distended with dark uncoagulated venous blood; about an ounce of bloody serum was found in the ventricles, and the veins ramifying though the the medullary part of the brain, were so full as to give this substance when cut, the appearance of having been thickly dotted with black spots. The right lung was slightly adherent to the chest at some points. The adhesions of the left lung were very firm and apparently of long standing. The parenchyma of the lungs was so much congested with dark blood, as to render respiration impossible, excepting at a small portion on the upper part of each lung. The lower portion of the right lung was soft, and broke down under the slightest pressure, but contained no evidences of purulent deposit; the colour of the part was altered as if by commencing decomposition. The bronchial tubes, and trachea were filled with frothy fluid. The small veins ramifying beneath the pleura were distended with blood and presented a net-work appearance on the inner surface of the chest. The other organs of the body were to all appearance healthy.

City Inspector's Report. — The whole number of interments within the city during the year ending Dec. 31st, 1839, were 7,953; being 100 less than for the year preceding.

Of these, 7,491 were from among our white population, and 462 were coloured persons.

Of the whole number 4,389 were males, and 3,564 females. This excess of mortality among the male population, as already stated in the reports of interments for previous years, is not easily explained, and is probably much greater than the proportion of male over female residents.

The disparity commences during fœtal existence, as is shown in the table of still-born infants, and continues almost through every period of life.

The average mortality among our foreign population appears to be much greater than among our native citizens. Of the whole number of deaths in persons over ten years of age, 1,419 were natives and 1,853 were Europeans.

The season of the year most fatal to human life in this city, as shown by the tables, is during the month of July, August, and September. The season, on the contrary, in which the fewest deaths occur, is during the three months immediately preceding these, namely, April, May, and June.

The great mortality in this city among children under five years of age, has long been the subject of remark. During the past year, excluding the still-born, more than half the deaths, or 3,696, occurred in children before the completion of their fifth year. The diseases most fatal within this period of existence are, Marasmus, Inflammation of the Brain, Hooping Cough, Measles, Scarlet Fever, Dysentery, Diarrhœa, Cholera Infantum, Croup, Convulsions, Dropsy of the Brain, and Teething.

The mortality from Pulmonary Diseases, including in this list all the disorders of the respiratory organs, is nearly equal to one-third of the whole number of interments.

The deaths from Pulmonary Consumption alone, during the past year, were 1,315, being an increase of 90 over the year preceding.

The mortality from Pulmonary Consumption in this city, may be rated at one-sixth of all the deaths; but the average varies greatly among the different classes. It is worthy of remark, that of those over ten years of age, that die of this disease, more than one-half are natives of Europe. Of the 5,564 deaths among our native white citizens, only 610, or about one in nine, occurred from consumption. Of the 462 deaths among our coloured population, 132, or one in three and a half, occurred from this disease. And of the 1,853 deaths among our European population, 563, or about one in three and a quarter, occurred from the same disease.

The city has been visited by no fatal epidemic during the past year; and, with the exception of Measles, the various contagious diseases have been less prevalent than formerly.

The tables show 68 deaths from Small Pox. The proportion of these that had previously undergone vaccination cannot be ascertained; but as 38 of them, or more than one-half, were among children under five years of age, the probability is, that very few of the whole number had resorted to the only efficient means of protection against this loathsome and fatal malady.

The foregoing tables are as accurate as possible, consistent with the requirements of our existing statutes; but in order to furnish exact returns, our bills of mortality should be drawn, not from the number of interments, but rather from the actual number of deaths occurring in the city. No proper estimate of deaths, in proportion to our population, can be given, until we are furnished, first, with a register of births; and, secondly, with the new census of the city and county, now in course of preparation.

In preparing these tables, I have followed, with some alterations, the plan originally introduced by my predecessor in office, to whom great credit is due for the ability and industry exhibited in his reports for the years 1837 and 1838.

The present report, it is believed, will present materials of equal interest to the public, and particularly to the Medical Profession.

[We are unable, for want of room, to offer our readers the many valuable details contained in the annual Report of Dr. Walters.]

Dr. Fletcher's Patent Truss.—We have examined this new instrument; and, judging from our own observation, as well as from the respectable certificates that have been furnished in its favour, by those who have already made use of it, we are satisfied it will be found to answer the purpose for which it has been constructed; and to be as useful an instrument as any other of the thousand and one already before the public. One truss, says the inventor, will suit equally well inguinal, ventro-inguinal, or femoral hernia; and should the wearer become corpulent, or diminish in size, the instrument may be varied accordingly. It may be obtained at 100 Fulton-st.

Cure of Strabismus.—Our readers will remember, that Dr. Detmold in his article on club-foot, published in the last number of this Journal suggested that strabismus might be cured in some cases by dividing some of the muscles of the orbit. We have since learned, that Professor Drieffenbach of Berlin, has actually cured three individuals of squinting by this operation. The same surgeon has also divided the m. m. pectorales in old luxations, as also recommended by Dr. D.

To the Editors of the New-York Journal of Medicine and Surgery.

PARIS, December 14th, 1839.

In my last letter, I spoke of a new method of curing anchylosis of the knee joint, which had been tried on one of Velpeau's patients. The result has been very satisfactory, for no accident occurred, and the limb is now in a position nearly natural. At L'Hôpital Beaujon, a similar case was treated in the same way; the violent traction employed, caused the rupture of the integuments around the knee; the subsequent result of this case is unknown to me. Lisfranc, at La Pitié, restores the anchylosed limb to a natural position, by means of an apparatus which presses on the knee,—the force applied being gradually increased: this seems to me to be the most rational and least dangerous proceeding.

The annual meeting of the Academie de Médecine was held on the 1st Dec. in the Amphitheatre of the School of Medicine. Two eulogies were delivered: the first by M. Bousquet on Itard, the celebrated physician who has done much by his writings to render diseases of the ear better known: the second on Laënnec, by M. Pariset. Several of the prize questions given out are well worthy of notice: the first is that of the Academy, as follows: "Determine, particularly by post-mortem examinations, whether tubercular phthisis has ever been cured."

2nd. "In case this is proved in the affirmative, assign the probable conditions in consequence of which the cure took place."

3d. "Investigate how far art can go in producing, under certain circumstances, analogous conditions, so as to raise itself to the same results."

A singular, and at the same time, interesting question, is one relative to animal magnetism, founded in 1837, by M. Burdin, Member of the Academy. The prize is 3000 francs. The question proposed is the following:

"Bring to the Academy a person magnetised or not magnetised, asleep or awake, who can read with the eyes open, and at mid-day, through an opaque body, such as a texture of cotton, linen, or silk, placed at six inches from the face, or even through a simple sheet of paper."

The solution of this question ought to prove the truth or falsity of animal magnetism. Up to this time no one has appeared before the Academy who was endowed with the faculty of clair-voyance; and in order to give the partisans of animal magnetism a fair opportunity, the original question has been modified as above. The original form was this: "I deposit the sum of three thousand francs, to be given as a prize to the person who, in the judgment of a committee of the Academy, shall be able to read in books to be furnished by the committee, without the aid of the eyes, even with the aid of touch, so long as this shall not be supplementary to the sense of sight; the objects to be read may be illuminated." If any of your American magnetisers are in want of funds, here is a chance to take three thousand francs from M. Burdin's fortune! One of the other prizes is remarkable from the amount of money attached to it, the sum being 8,238 francs, with six years interest.

The question founded by the Marquis Lebasele (d'argenteuil) is "to determine the most perfect treatment of strictures of the urethra."

The weekly meeting of the Academie de Médecine have not, during the past month, been characterized by anything very interesting or excessively important. Another case of that disease so remarkable in the human subject, 'la morve,' or *glanders*, has occurred during the past week in the service of M. Husson at Hotel Dieu. It is only since a few years that the attention of the learned medical men of Paris has been turned toward the study of this singular malady. In point of fact, it is only since 1821 that the glanders, a disease so prevalent among horses, has been considered as communicable to man. Rayer, in his memoir "sur la morve," published in 1837, has collected all the well authenticated cases of this disease which have been published in Germany and France, with those of Dr. Elliotson and others, in England. Since the year 1837, eighteen cases have been observed in Paris; the autopsies of two have fallen under my own observation; and as a notice of the last one witnessed by me may not prove uninteresting, I will briefly state the principal organic lesions found on examination. The morbid alterations produced by glanders may be classed as follows: 1st, those affecting the skin; 2d, the subcutaneous cellular tissue; 3d, the muscular system; 4th, the mucous membrane of the nose and larynx; 5th, the lungs.

1. The skin in the case to which we now refer, presented a pustulous eruption somewhat similar to variola, excepting that the umbilicated appearance of the pustules in this latter disease did not exist. The pustules were filled with a concrete pus gelatinous in its nature, and varied in size. Around the knee-joints there existed a phlyctenoid eruption, and several gangrenous *bulles*.

2. The cellular tissue, particularly around the knee-joints, was infiltrated with serosity. In some spots this tissue was ulcerated, especially under a large *bulle* situated over the patella of the right knee.

3. The muscles on the back of the left hand were degenerated into a puriform pulp to the extent of about a square inch. The abscess in this situation seemed formed by a disorganization of the muscles and tendons. Several abscesses existed in the muscles of the superior and inferior extremities.

4. The mucous membrane of the nostrils exhibited an injection of a reddish violet colour, and a pustulous eruption, which in some points was ulcerated, in others gangrenous. The bony tissue and cartilages of the nose were much injected. No ulcerations were discovered in the larynx, a redness of the mucous membrane was all that was worthy of notice.

5. Both the lungs were much gorged with blood, and offered externally many

small abscesses surrounded by a violet areola, similar to those arising from purulent absorption. The same appearances existed in the parenchyma of these organs. Otherwise, the lungs were entirely healthy, as also the pleura.

The examination of the head revealed a lesion hitherto unseen in this disease. Between the dura mater and the skull, immediately under the left parietal protuberance, there existed a quantity of pus. The dura mater was very thin, and in one point nearly perforated. Between the pia and dura mater in this same place, there was an exudation of blood, with injection of the former membrane. Farther than this the brain and spinal cord were in a healthy state, as were also all the other organs not mentioned.

A case of glanders was reported in full, in the "*Archives de Médecine*," for November, 1839, having occurred in one of the students at the school of Alfort. The post-mortem appearances were the same as in the case which I have just mentioned. That this disease is contagious no one can now doubt, for the examples of it now recorded are too many, and too well authenticated to give rise to skepticism on this point. Rayer details, in his memoir on the subject, an experiment made on a horse, by inoculating the pus taken from a patient who died of glanders at La Charité, which resulted in communicating the disease to the animal.

The study of this affection is interesting, and well worthy of the attention of American practitioners. Probably, cases have occurred and still do occasionally happen in the United States. I am not aware of the publication of any, unless some have been noticed since I left America.

The Concours is still going on at the School of Medicine, the principal candidates are Gendrin, Cazenave, Dubois (d'Amiens,) Piorry, and Requin.

Several new works have been lately published; among the most important are Civiale "*du Traitement Médicale de la Pierre et de la Gravelle.*" The second volume of Gerdy on Bandages, and the second volume of Rayer *Maladiés des Reins*. A new edition of Chomel's *Elémens de Pathologie Générale* will appear in January. A treatise of Pigeaux's, entitled "*Traité Pratique des Maladies du Cœur*," has just issued from the press of Just Rouvier; as to its merits, I cannot at present speak, the *Archives* and *Gazette Médicale* both contain critical notices of it, which conclude by saying, that the author has shown much research, but the want of method prevents his work being very useful.

Yours, &c. A. G. T.

College of Physicians and Surgeons. Dr. C. R. Gilman has been appointed Lecturer on Midwifery and the Diseases of Women and Children at this Institution for the coming Session.

Bellevue Hospital. A very severe and fatal epidemic of puerperal fever, has lately been raging in the lying-in wards of this hospital; but by the judicious management of the Resident Physician, its progress has now been, we believe, entirely stopped. A detailed account of the cases will appear in our next number.

Albany Medical College. Professors Reese and Bedford of New-York, finding it inconvenient to be absent from that city during the Session, have resigned the Chairs of the Theory and Practice of Medicine, and of Midwifery, &c., in this institution. Dr. McNaughton of Albany, has been elected to succeed Dr. Reese.

State Medical Appointments. The Senate have appointed Dr. A. S. Doane, Health Officer; Dr. Wm. Turner, Health Commissioner; and Dr. McNeven, Resident Physician. These appointments are all political.

London. Sir Benjamin C. Brodie has resigned his office as Surgeon to St. George's Hospital. Mr. Walker has been elected his successor.

Edinburgh. Dr. James Hamilton, the distinguished Professor of Midwifery in the University, died in November last, aged about 70 years. Dr. J. Y. Simpson of Edinburgh has been elected his successor, by a majority of one vote only over Dr. Evory Kennedy of Dublin.

Paris. Baron Richerand, Professor of Operative Surgery in the School of Medicine, is dead, ætat 62 years, having been elected Professor at the age of 29. He was well known as the author of a beautiful work on Physiology, which he composed at an early age.

The important Chair of Internal Pathology, left vacant by the transfer of M. Andral to the Chair of Broussais, (General Pathology,) is now the subject of Concours. M. Gendrin, author of a most valuable work on the Anatomical History of Inflammation, on the Brain, &c., is the most prominent candidate.

The Royal Academy of Medicine has voted gold medals of the value of 1500 francs, to Dr. Bright of London, Drs. Rayer and Martin Solon of Paris, for their important researches on the diseases of the kidneys. Also the same to M. Ricord, for his work on syphilis. A medal of 1000 francs was also voted to M. Martin, for his improvements in artificial legs.

Germany. Professor Blumenbach, the distinguished physiologist, died at Göttengen in January last, ætat 88 years.